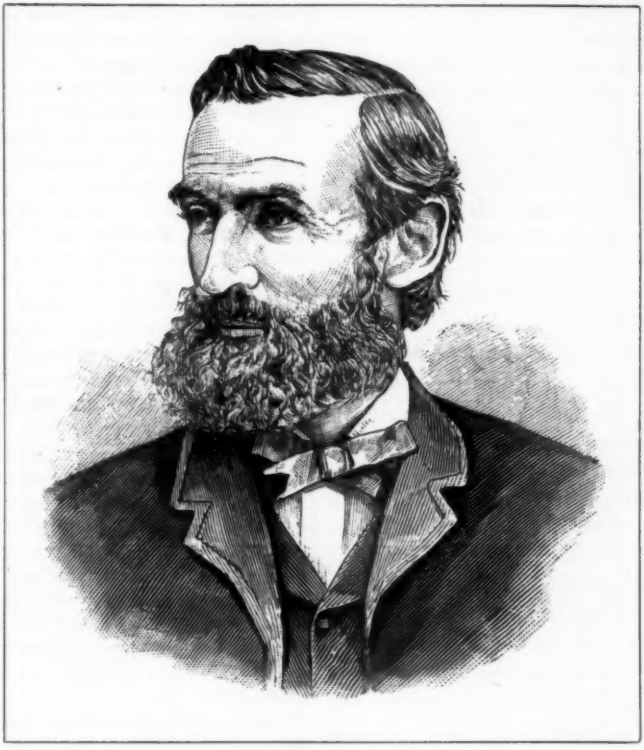
THE PHRENOLOGICAL JOURNAL AND LIFE ILLUSTRATED.

VOL. 81. 1885.

NUMBER 6.] *December, 1885.* [WHOLE No. 666.



HUBERT ANSON NEWTON,

PRESIDENT OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

A TEMPERAMENT in which the elements of the motive and the mental are marked, is at once discerned in the portrait of Professor Newton. At an early age the strong, fibrous characteristics of the motive were more sharply expressed upon the physiognomy in the lines of the forehead and the facial contours, but even now, after years of study and investigation, and of the necessary

activity of the frontal lobes involved by such employment, the motive temperament is still strikingly appreciable. It has imparted its influence to the life of our subject, rendering him vigorous, enduring, tenacious physically, and industrious, thorough-going, persistent, and emphatic mentally. Naturally inquiring, with a good development of the perceptives, there is shown in the portrait a fine reasoning organization also; he is at once inclined to acquire facts himself, and to sift and try them in the laboratory of reflection. He is a man of force and emphasis, but deliberate and painstaking; not easily satisfied with results, unless when viewed on all sides they appear distinct and consistent. He is a careful man in all respects, watchful and earnest in his relations toward the world, appreciative of obligation, jealous of his integrity. There is also a strong vein of humor in his method of looking at matters, although it may appear in quiet hints, side-effects, and sarcasm. The head in the portrait appears elevated in the anterior part, showing the sentiment of kindness or sympathy to be active; and there is breadth evidently in the temples which declares him to be possessed of good judgment regarding the principles of mechanical art, and not deficient in practical economy. He would not be inclined to waste his strength or time in lines of speculative investigation, but as a rule works in the direction of his impressions, founding or confirming them upon practical or well-established principles. He should be a clear, accurate speaker and writer, with enough of detail in the exhibition of facts, yet no unnecessary verbiage, and with forcible and comprehensive argumentation that shows the weight and bearing of his facts in a striking and conclusive manner. He is guarded and particular in statement; hence arrays his data in such order that their support is well correlated for the demonstration of his premises.

Involuntarily the public doffs its hat and bows deferentially before the teacher whose record reaches back over long years of patient faithfulness. If to that faithfulness be also added the fruits of earnest research and continuously advancing study, the deference deepens into the most profound respect.

Just such an one is the subject of this sketch. It has been said of him, "His outward life has been uneventful." It is well, indeed, that occasionally an able man is permitted to pursue "the even tenor of his way," without meeting the cyclones, earthquakes, and floods of change that generally keep a man of brains stirred up. For forty years Prof. Newton has been a resident of New Haven, devoting all his energies to his professorship. His occasional visits to Europe have resulted in personal friendships, and amiable relations with eminent mathematicians.

Academic honors have fallen upon him through merit and all unsought by him. Many years ago he was elected associate editor of the *American Journal of Science*. He was one of the original members of the National Academy of Sciences. He is a leading manager in the Winchester Observatory of Yale College. The degree of Doctor of Laws was conferred upon him by the University of Michigan in 1868.

While Professor Newton occupies a high position as an authority on mathematics, as an astronomer he has won still greater distinction. His name is now and will be always associated with the discovery of the laws of meteoric showers; enveloped in mystery when he set to work to investigate them, they are comprehensible now.

While Professor Newton was an undergraduate, Professors Olmsted, Twining,

Herrick, and others were intently studying the phenomena of shooting-stars, their interest therein being aroused especially by the extraordinary display of November 13, 1833. Other men, eminent in the scientific world, had attempted investigation into the cosmical origin of the November meteors and the true explanations of the radiant zone, and its position relative to the earth's orbit had been settled by Olmsted and Twining after the shower in 1833. To Professor Newton, however, is due the honor of taking the first sure, definite, and successful steps toward conclusive proof. He collected and analyzed previous observations, pointing out the method for obtaining the true orbit.

The laborious computations necessary were made by Professor Adams, of Cambridge, and the orbits of thirty-three and one-fourth years were established. Professor Newton's papers on the subject in the *American Journal of Science* have become classical. His later papers on comets are of equal ability and originality with those on meteors. In 1864 he contributed to the publication of the National Academy of Sciences a paper in which he endeavored to show the laws which govern the movements of sporadic bodies. Summaries of what is now known of meteoric laws have been contributed by him to "Johnson's Cyclopædia" (1877) and to the "Encyclopædia Britannica," Vol. xvi., 1883.

Professor Newton has ever been a firm advocate of conservative ideas in all matters pertaining to the advancement of education and science. He has never sought popular applause; when called upon, however, he has upheld what he believed to be right with commendable courage and persistence.

In his election to the presidency of the American Association, that large body has honored one whose title to the distinction is of the most desirable character—valuable contributions to knowledge, gained by difficult and patient study, guided by a well-trained mind.

HOUDON'S CAST OF GEORGE WASHINGTON.—When Jean Antoine Houdon visited America a century ago this year, he was considered one of the leading sculptors of his time. He had a weakness for the false classicism of the period, but was a master of the mechanism of his art. He came to this country with Benjamin Franklin, and the most important work he performed was the making of a cast from life of General Washington, to whom Franklin introduced him, and whose guest he was. The Father of his Country posed with commendable patience for his artistic friend. He submitted to being anointed with oil and having quills inserted in his nose; suffered, in short, one and all those inconveniences which fall to the lot of the individual when the mould-maker takes him in hand, till, finally, Houdon produced a cast from life of his head and bust. Three-quarters of a century afterward Clark Mills, while visiting at Mount Vernon, found this cast, grimed with dust and defiled by the careless hands of servants. Mills recognized the work and appreciated its value. He suggested to Col. Custis, then the custodian of the house, that he make a clean copy of the bust for him; and having done so, kept the original for himself. During a visit of Wilson McDonald to Washington, Mills, in an accession of hospitable generosity, presented him with the cast, and McDonald brought it to New York, and some ten years ago disposed of it to Judge Maurice J. Power. The judge had a mould made and cast it in bronze, and the completed work has been on exhibition in New York. It is a powerful and characteristic portrait, not of the smirking and philanthropic old woman of Gilbert Stuart's picture, but of the man born to command armies and exact homage from great men. The strong and massive head has the firm foundation of bone under it, the furrows of thought and care mark the broad brow, and the lips have the set determination of a warrior and a ruler. The hair lies in broad masses, brushed back and well

greased to keep the plaster from sticking to it. The neck betrays in a certain looseness of the skin the advance of age upon the original. The bronze is a superb reproduction of a most successful cast from life, and as a bit of individual portraiture has no rival. Houdon's own bust of Washington was remodeled in France after the life-cast, and the sculptor altered it to suit his taste and the artistic fashion of the time. It is an ideal Washington, as much a Frenchman as its maker. The real one will do more to perpetuate Houdon's fame.

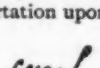
[We have seen this cast and can subscribe to all the writer has said about it.]

ON INDICATIONS OF CHARACTER IN HANDWRITING.—No. 3.

HAVING now cleared the way for the more serious and practical part of the study of Graphiology, I will plunge immediately into it by taking up the alphabet, and guiding the student to a knowledge of the significations that are to be attached to the various methods of forming each letter.

But ere I proceed further I would like to make due and full acknowledgment to the articles upon this subject from the pen of Miss Baughan, which appeared in a London magazine about ten years ago. Some of the illustrations used by her are not to be surpassed by any at my disposal, therefore I have not hesitated to use them, although in some few cases my delineations are somewhat different from those she has given.

In mastering the elemental principles here laid down, it should be the student's constant task to compare the illustrations given with the handwriting of intimate friends. For in this way, better than any other, can it be seen whether the alleged association between a certain form of writing and a certain trait of character really exists. There is not much to be learned from the formation of any single letter, and as a rule far less from the small letters than the capitals. Yet the study of the small letters will well repay the few moments' labor necessary to be spent upon them, and then—after a short dissertation upon the finals—the capitals shall come in for a more extended examination.


1.

The first illustration, *angel*, is from Leigh Hunt's "Abou Ben Adhem." The carelessness in failing to join the curve of the letter indicates listlessness and general indifference when carried through the whole of the writing. A single omission to make the "join" would mean little if anything, but where it is the habitual form of the writer it will generally be found that he lacks energy, and is a careless, easy, nonchalant individual, who puts himself as little out of the way of ease and comfort as possible.

The second, *day*, from William C. Bryant's "The Poet," and *paid*, from a private letter of Thomas Cooper, the eminent English lecturer on Christian evidences, are indicative of a flowing sequence of ideas and a graceful ease of expression. Whenever an "a" is thus joined to the preceding and following letters, the indication is that of an easy, flowing mental habit, such as all readers of Bryant's poems and listeners to Coöper's lectures would expect them to possess. The two *a's*, 4 and 5, show in their angular outline tenacity of purpose, or determination in carrying out a started project. 4, being made of thick, bold lines, indicates obstinacy and firmness whether in the right or wrong, while 5, being combined with elements of grace and tenderness, would need to be perfectly assured of the right ere the "foot would be planted." Then, indeed, would it be firm, but not before. The former (4) is from the pen

2.

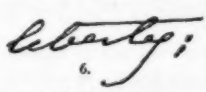
3.

4.

5.

of a railroad president, and the other from a literary lady, whose productions are of the strictly useful order.

The letter "b" gives scope for the exhibition of two or three marked traits of character. Where the lines are angular and thick, a dogged tenacity of purpose is shown. Where the loops are open, as in the word "liberty," from one of Whittier's poems, there is an open disposition and lack of secretiveness. If this openness is combined with graceful curves, the indications are of refinement and grace that can not help giving vent to poetic expression.


6.

When the down-stroke is constantly written without the loop, firmness and dignity may be expected, combined with energy.

A simple form of the letter "c" is an invariable sign of a poetic mind, but the small letter is not so expressive as the capital, which affords scope for the exhibition of vanity, conceit, pretension, and qualities of a similar nature, more than almost any other letter.

7.

The letter "d" reveals much from some people. Fig. 7, *dei*, is from the writing of an Italian music-master. Imagination is shown in the eccentric form, and excess of vanity by the absurd flourish. Whenever this excess of flourish is found, no matter how graceful, poetic, or even strong in other good qualities, conceit and self-esteem in superabundance will invariably be found. In Fig. 8 is a "d" from a short letter of Florence Nightingale's, accompanying one of her reports to the English war-office, in 1858. It is in great contrast to the preceding. Its indications are tenderness, generosity, and sweetness; the first, indicated by the sloping line of the up-stroke, the last by the rounded and gracious curves of the final.

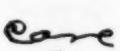
8.

The small letter "e," being the most common letter of the alphabet, and occurring so often as a final, has great significance to the graphiologist. Fig. 9 is from the writing of a naval officer, who died young. Imagination and ardor are shown by the extraordinary upward movement of the final of the letter,—such extravagantly long strokes upward always revealing an almost foolhardy disregard of danger,—"this, with the constantly ascendant lines, is seen in the handwriting of most military men who have achieved a position; it is also, to a certain extent, to be seen in the handwriting of Miss Florence Nightingale, who certainly has shown a noble, though not perhaps foolhardy, disregard of life."

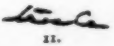
9.

When the letter is formed in an angular manner, and the loop seldom appears, secretiveness and dogmatism will generally be indicated. When the terminal stroke of the letter is angular, and made up of short, broken lines, it denotes extreme finesse.

The downward tendency of the "e" in Fig. 10, shows an indolence of disposition, combined with an economic spirit, evidenced in the abrupt termination. This former sign also reveals a disposition to despondency, and were there not energy and other redeeming qualities evidenced in the writing, this character would be one of the shiftless order that would be too despondent ever to try to obtain work, and too lazy to do it, if it were obtained.


10.

The last "e" I will give, Fig. 11, is from the pen of one of the most celebrated materialistic spiritual mediums of the world. This form of letter reveals great secretiveness, cautiousness, and finesse. There is also great shiftlessness evidenced in a writing that "glides along," as this does all throughout.


11.

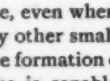
As far as I have now gone I have dwelt

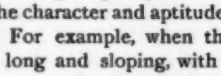
somewhat fully upon each letter, but it is not necessary to speak so fully upon those that follow, unless it be some individual letter that reveals indications not possessed in common with others. For the general indications are practically the same, and it is only to the special qualities that any reference need be made.

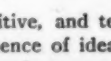
For instance, an open, curved, sloping "b" indicates the same as a similarly constructed "f," and so on throughout the whole series of the letters.

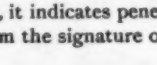
As suggested above, the letter "f" is governed by the same rules as "b." The open curves and sloping lines indicate a poetic ardor and tenderness, while the straight and upright lines denote the reverse.

The small letter "g" has more significance, even where it is not a final, than many other small letters of the alphabet, as the formation of the terminating down-stroke is capable of giving very decided indications of the character and aptitudes of the writer. For example, when the down-stroke is long and sloping, with a graceful curving return leading on to the next letter, (see Fig. 12, from Bryant's "The Poet,") such a form denotes a sweet, sensitive, and tender nature, with easy sequence of ideas. If, on the contrary, it terminates angularly, it indicates penetration, (see Fig. 13, from the signature of Robert Browning, the great poet). When it ends with a short, rounded curve, a very kindly, though not so sensitive, nature, but possessing great tenacity of purpose, as evidenced in Fig. 14, from J. G. Holland's writing. A long down-stroke, terminating with a curve, thick at its base, as in 15, from a letter of Lord Shaftesbury's, indicates the refined qualities before spoken of, but combined with an iron will. When the termination is a straight line, with no return stroke, and quite fine at its point, it denotes economy amounting to parsimoniousness.


12.


13.


14.

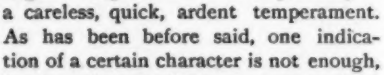

15.

The letter "h" is subject to the same rules as "b" and "f," but should it terminate abruptly with a thick down-stroke it would indicate obstinacy, and a disposition to yield to anger.

The letter "i" has not much significance except as a final, when it is subject to all the rules now, and subsequently to be, given for finals.

The letter "j" follows all the rules for finals, but shades of character may be gleaned from the manner in which the dots are placed over both the "i" and "j." If the dots are evenly placed, neatly rounded, and rather close to the letter, the writer is careful, cautious, and calm; if, on the contrary, the dots are flying away from the letter, and of hurried, angular shapes, the writer is probably of a careless, quick, ardent temperament. As has been before said, one indication of a certain character is not enough, but it will generally be seen that where there is much movement (that is, where up-strokes and down-strokes fly about in all directions) the dots of the letters "i" and "j" will follow suit. Of such a writing, ardor almost to recklessness is the prevailing characteristic.

The letter "k" follows the rules of the letter "h," although the various methods of forming the terminal part of the letter reveal more than the "h" possibly can do. In the "k" (Fig. 16) of Wilkie Collins' signature, great boldness and vigor are shown rather than artistic grace and elegance; while in Fig. 17, from the signature of an Episcopal bishop, we see firmness in the strong down-stroke and finesse in the delicate line connecting it with the next letter. Fig. 18, from the signature of Mark Hopkins, of


16.

17.

18.

Williams College, denotes a vivacious energy, combined with considerable determination and firmness; the former seen in the rapidly constructed loop, and the latter by the concluding stroke of the letter, which is made with evident vigor and firmness.

The remainder of the small letters and the significances of the finals I will give in my next article.

GEORGE W. JAMES, F.R.A.S., F.R.H.S.

SELF-ESTEEM AND APPROBATIVENESS.

THEIR FUNCTIONS, CULTIVATION, AND RESTRAINT.

SELF-ESTEEM.

THIS faculty is connected with the brain which lies in the middle line of the crown of the head, beginning where the head begins to round off from the top posteriorly, and extending downward about one inch. When large it gives distance from the ear to that region, and causes the head to have an upward and backward inclination, as shown in the illustration.

It is the function of Self-esteem to give a feeling of one's own importance and power. It gives self-reliance and a disposition to act independently of others. It is the prime element in leadership, and seeks positions of power and command. It imparts dignity, self-respect—that degree of self-confidence and self-satisfaction that enables the other faculties to act to the best advantage, freeing the person from restraints imposed by fears of incompetency.

It is the main element in pride, and, when excessive, leads to a very high estimate of one's own capabilities and worth, making him conceited, haughty, and imperious; but when combined with a good degree of the conforming or moral faculties, it gives a disposition to live above the mean and ignoble, and seeks to attain the worthy and exalted.

A writer on this topic says: "We often see individuals manifesting this propensity in a most ridiculous manner; putting themselves forward, confidently assuming superiority, and getting themselves into conspicuous situations, while it is obvious to all but themselves that they are miserably deficient in the qualities necessary to fill an important station. It is astonishing to see the success which sometimes attends the ambitious efforts of men of inferior talents, when acting under the influence of Imperiousness (Self-esteem). Others, with gigantic intellects, give way before them, astonished at their impudent pretensions and disgusted with their egotism and ignorance. If their

SELF-ESTEEM LARGE.

favorite hobby is one which is complicated and difficult to be understood, such as theology, medicine, or politics, they generally gain the ignorant over to their opinions by the loud, confident, and imperious manner in which they assert them, and the supercilious haughtiness with which they bear themselves toward others."

Deficiency in this faculty causes diffi-

dence, bashfulness, inefficiency, because a lack of faith in the capacity of self, and on account of irresolution, indecision, over-submissiveness, and dependence upon others. The faculty is usually a leading one in the male character, and it is this more than anything else that gives the manly spirit. In woman, though not deficient, it exerts a minor influence. For this reason they shrink from responsibility, and few of them will take positions in which the load rests upon them entirely, and some will take them only when forced to do so.

Cultivation.—This feeling, if properly directed, is one of the highest attributes of man, and its deficiency one of his greatest defects. When it is strong it should be properly directed, and when weak should by all means be strengthened as much as possible. If a child is wanting in self-confidence, his parents and teachers should avoid discouraging him in any way. They should give him little tasks at first which they know he can accomplish. And the best encouragement which they can give him is to impress him with the idea that *they* fully believe that he can do what is required of him. When the pupil is deficient in the faculty, it is very strongly impressed upon those who see him that he is incapable, and it is difficult for a teacher to make himself believe in such a pupil. Yet the teacher should not show this feeling, but by word, manner, and deed show faith in the child.

When you call on such a pupil to recite, do it with a downward inflection, as much as to say, "There is no doubt that you will get it just right." Even if it be a failure show no disappointment, and on the next day call on him for something which you know he can give; and if it be a success, show perfect satisfaction in your manner, or say as much in words. By all means do not indicate by your manner that you think, "Oh, it's you! I expect nothing from *you*, but it is my duty to call on you."

The important thing to do to these diffident pupils is to establish self-confidence. All other things are subordinate to this. Though you store such a head full of knowledge, it is utterly useless; for it will not do him nor any one else any good. But let a modest boy arouse his lagging Self-esteem to action, and his modesty will afterward be a strong point in his favor. Children deficient in Self-esteem believe with indifference that they can not do what others can; and the greatest good that can be done to such is to establish self-confidence in them. When they get started they work with greater zeal, being urged on by this newly awakened hope, that is exhibited in such bold relief on the background of their former despair.

Restraint.—When you find a pupil who is swelled up with ideas of his own importance you will be tempted to humiliate him, to bring him down from the lofty position in which his conceit has placed him. But this is a wrong course, except in extreme cases. Pride when humbled by pride becomes a smouldering fire which will do harm. Pride can be best counteracted by reason and respectfulness. If you tell a boy that he is conceited and proceed to put him down by authority, he may submit; but he will hate you, and do just the opposite from what you want him to do, even if it is against his own welfare. You manifest only a quiet dignity, and in the most respectful manner bring evidence to his mind that he overestimates himself; he will consider the matter, will see his own folly, and will regard you as his friend.

If a pupil shows signs of contempt for you and what you require of him, very quietly and without any show of authority put him to the test, if you can do this in any of his studies. Should he not solve all the problems in the lesson, and give as his excuse that they are such simple things he needs not to solve them, you can send him to the board, not showing that you think he can not solve them. By thus putting him to the test, you can demonstrate to him most effectively that he lacks something.

Few things are so destructive of a teacher's success as the weakness which

results from too much or uncontrolled Self-esteem. But few can receive a little authority without showing to others how it swells their pride. They exhibit it by manner, word, and deed. By their exhibition of authority on occasions when it is unnecessary they arouse opposition and revolt. The teacher should always do what he does from motives of justice, kindness, and propriety, and use his authority only as an assistant to these motives. Self-esteem thus tempered by justice, kindness, truth, and humility, will give a quiet dignity that wins willing respect and glad obedience. Keep self under and let the love of truth and the love of the pupil's welfare be uppermost in all your acts.

Self-esteem acts in conjunction with the other faculties, and the teacher should seek to get it to act with the better motives.

Self-esteem with the animal propensities will cause the person to pride himself upon the powers that they give. Combined with the higher faculties it will cause him to pride himself upon his power to do the noble and good. If a pupil shows this faculty in a high degree, tell him that true honor and dignity must be based upon right and noble deeds; that all others are unworthy. Thus make his pride a fastening-point for right and honorable conduct. If it is necessary to reprove him for an unworthy act say to him, "You are an intelligent and promising boy, you have the ability to do much good and to make yourself a useful and respectable man, or you can throw yourself away in an unworthy and degraded life." His Self-esteem will say yes to everything of that kind. Then bring up the conduct in question, and appeal to him whether or not it be worthy of him, or whether it is not a thing to regret. In this way you turn pride from a bad to a good course. You will make him your friend, and he will put himself under your guidance.

THE LOVE OF APPROBATION.

Location.—This propensity is connected with the brain on each side of Self-esteem. When developed it gives width and elevation to the upper back-head, as in the illustration.

Function.—This propensity seeks to gain approval, admiration, and reputation. It is one of the chief forces in the human mind to adapt the individual to society. Self-esteem is necessary to give confidence in self, to give a desire for authority. Approbativeness is necessary to compel self to seek the approval and good-will of those who can confer this

APPROBATIVENESS LARGE.

power and authority. It causes men to seek fame and glory. If Self-esteem be large, it will seek it in positions of influence. With the higher sentiments it seeks renown through philanthropy. With the animal propensities and physical strength, it seeks reputation through feats of strength and superiority in physical courage and moral depravity. With strong intellect, it seeks renown through scholarship and wisdom. With Acquisitiveness, it regards riches as being the greatest cause of glory. Whether the ambition to be known of men be for good or

bad conduct, depends upon the strength and education of the other faculties. Like Self-esteem, it is one of the leaders of the other faculties,—that is, it is one of the leading motives in conduct. When excessive and not controlled by sound judgment, it gives rise to vanity. Vanity is the inordinate desire for attention. When this faculty is large and Self-esteem small, vanity lacks dignity, and its possessor will stoop to unworthy acts in order to attract attention. If he tries to be witty, he makes *himself* the object of laughter instead of what he *says*. These clownish acts are the more despicable because the fact that they proceed from vanity is very apparent. The tone and manner express clearly that the desire for applause is the motive.

Cultivation.—If one wishes to control others, this is one of the motives to which to appeal; for most men care more for what people say of them than they do for whether they are in the right or in the wrong. Say to many a reckless young man, "It is wrong," and he will laugh at you. Say to him, "It is green," he will consider it seriously.

To win the pupil's confidence and esteem is of the first importance to the teacher. When he has these, by means of approval and disapprobation he can guide the pupil into whatever course he wishes. A good deed deserves recognition and approval as much as a man deserves his pay when his day's work is done. When the child makes an effort to do right the teacher must not neglect to recognize it. He need not do so in words of praise, for this begets vanity, but he can do so by a look, a smile, or, best of all, by some expression of confidence. You must avoid giving praise as pay for a good deed, rather give your sympathy. Show that you are made happy. Say to the child, "You have been a good child, you have had your lesson and now you are happy. Are you not? Yes, and I am happy with you. It makes us all happy when every one does right." The child will get to doing right because it pleases you, and not because it wins praise. To do good to make others happy is a right motive, but recognition is necessary to encourage this motive. But to do good to be praised for it is an inferior motive and should not be made a leading one in conduct. If the child loves you (it is your own fault if it does not), what a power you have over it! Every time you use your power for the child's good you make it happy and increase its love for you.

It requires tact to administer approval rightly. It requires still more to apply reproof. If you administer it as reproof you make the child angry and thus destroy the possibility of improvement. If you disgrace the child publicly you destroy its self-respect and ambition and undermine the foundation of character. To make an example of a pupil for the purpose of deterring others is heathenish and is only necessary where people are in that state. It is enough for children to know that every wrong is recognized and dealt with. Let reproof and punishment be in private. When you reprove in private you should be free from anger, should be actuated by a feeling of good-will toward the culprit. In tones of kindness and sympathy get him to acknowledge that he has done wrong. From the very nature of the mind in a normal condition the knowledge of wrong will cause sorrow. When you see that the child repents, show him that you sympathize with him; that you, too, are sorry. By all means avoid showing that you hate the child for wrong-doing and are punishing it to satisfy your own feeling of revenge. If you have brought about repentance, that is enough. When the child feels that it deserves punishment and expects to get it, you can say that is all you want. If it is sorry, you know it will not do wrong again. By kind words you can convince it that you freely forgive. The sorrows of the child will then be turned to joy and its heart will go out to you as to its best friend. So if you manage it properly, you can make occasions of reproof opportunities for increasing the child's love, and of making it more steadfast in the right.

(*For remainder of article see page* 352.)

THE HIGHLAND HOME OF QUEEN VICTORIA.

WE present to our readers in this Number of the JOURNAL a few sketches of points of interest surrounding the favorite home of Queen Victoria, situated in the highlands of Scotland. The name Balmoral has become almost as familiar to American readers as that of the fortunate and appreciative owner.

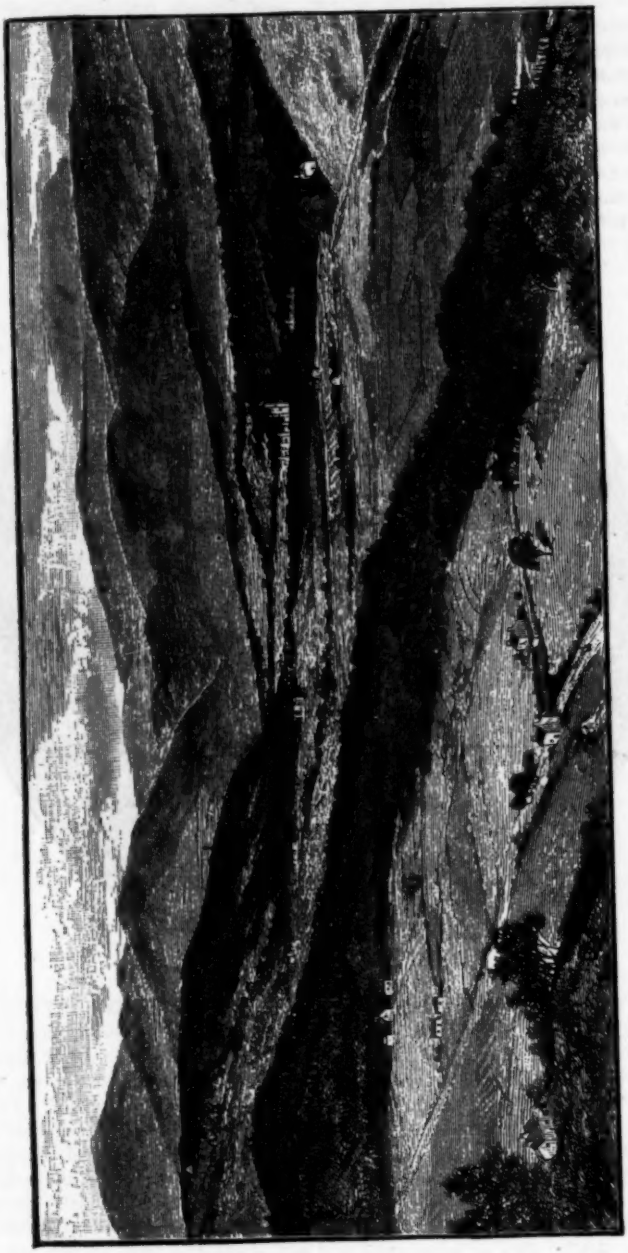
Balmoral, in its present stage of beauty, is largely the outgrowth of the harmonious tastes and love of domesticity for

GLEN MUICH AND NEIGHBORING MOUNTAINS.

Leaving Windsor Castle for Balmoral, the Queen leaves also, in a large degree, the cares and anxieties, ceremonials and paraphernalia of court life, taking up with joy her favorite rôle of the helpful, sympathetic "lady of the manor."

Daily walks and rides amid such marvellous scenery, where nature's wondrous skill is as yet almost unmarred by the needs of men, would doubtless prompt the heart to kindly deeds; such as every cottager and tenant in all that vast estate receives at the hands of her sovereign, whose womanliness has won for her more enduring praise than her position or accomplishments have.

which Queen Victoria and Prince Albert were noted. It is not strange then that the memory of the happy days spent there should prompt the Queen to write of it as "this dear Paradise." The castle is built in the Scottish baronial style of architecture, the material being a light gray granite, quarried on the estate. At the eastern end of the castle rises a massive tower, the summit of which is 920 feet above the level of the sea. From



QUEEN VICTORIA'S HIGHLAND HOME, BALMORAL: GENERAL VIEW OF COUNTRY.

that elevation the views are varied, grand, and impressive.

The collections of paintings and sculptures contained in the roomy corridors of the castle are valuable and interesting. A fine bust of Doctor Norman McLeod has been given a place of honor with the statues of Burns' "Highland Mary" and "The Lady of the Lake." Balmoral castle stands on the right bank of the river Dee, some fifty miles distant from the city of Aberdeen, and nine miles from Ballater—a popular rendezvous of tourists to those romantic regions. Ballater, with the famed hill, Craig-an-darroch, and the Morven range, closes the lower end of Glen Muich, a wide and romantic valley, running up into the Grampians. The Loch-na-gar group of mountains rest their granite feet on the edge of Glen Muich, and cast the shadow of their precipitous heights on the sombre surface of Loch Muich, which is a large body of water hidden away in the heart of the mountains, and overshadowed by threatening precipices. Sombre and awesome though it be, the scenery is bright and cheerful compared with that surrounding Loch Dhu, which is hemmed in by sheer granite walls, an enduring expression of nature's sternest moods.

On the north shore of Loch Muich stands the Royal Lodge. The demesne is of such extent as to demand a resting-place for the family, who never weary of exploring the beauties of "the everlasting hills." To Balmoral proper belong ten thousand acres, one thousand being woodland; in addition to that are thirty thousand acres of "deer-forest," which in their wildness and grandeur would delight the heart of the most enthusiastic and venturesome sportsman.

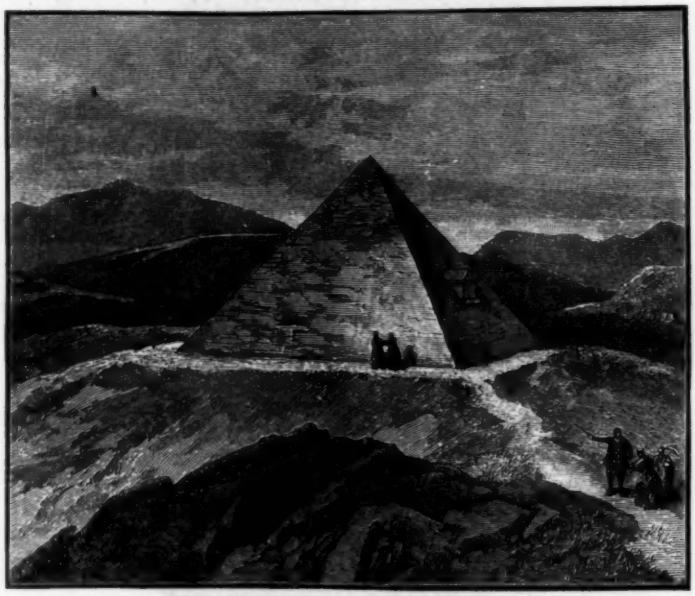
At the foot of the towering peak, stand-

THE FALLS OF GARRAWALT, AND SUSPENSION BRIDGE.

ing so boldly against the sky, with the summit record of 3,789 feet above the level of the sea, Loch-na-gar sleeps tranquilly, always of icy temperature and crystal clearness. It was from the shores of Loch-na-gar that Byron gazed upon the mountains and wrote of "their steep frowning glories."

The falls of Garrawalt, as pictured here, give but a faint idea of the many charms waiting to ensnare the admiration of the beholder, and impress him with a deep sense of nature's liberal handiwork. It is a place in which to meditate, a place that the student who loves sōlitude could never forget, when his heart would join in the song of the water pouring swiftly over the granite fragments; finding sweet solace in the unworded music voiced by the birch forest trending away so grandly from the falls.

Some two miles below Balmoral, on the river Dee, stands Aberfeldie Castle, a genuine specimen of the ancient Scottish feudal mansions; it has a massive square tower, with picturesque angle-turrets. A clock and bell ornament one of the turrets; the loopholes are quaint, and suggestive reminders of antiquity. For many years the Dee was crossed at Aberfeldie by a rope-and-cradle bridge, but recently a very substantial and effective suspension bridge has been placed there, relegating the primitive mode of transportation to the past. "The glory of Aberfeldie" is the birch woodlands, celebrated in song long before Robbie Burns wrote his "Birks of Aberfeldy."



The Cairn of the Prince Consort.

The valley of the Dee, from Craig-na-Ben, near Abergeldie, shows "the hill of hanging" in the foreground; Balmoral Castle, the suspension bridge, and Craithie Kirk in the centre, with the hills of Braemer to the left.

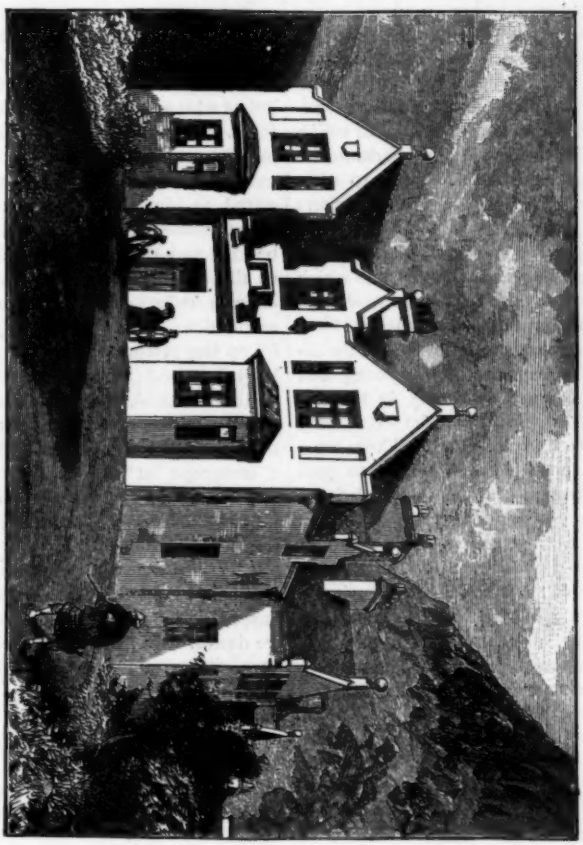
Craithie Kirk, a severely plain little Presbyterian church in the village of Craithie, is a point of interest to the tourist, for there, with unfailing punctuality, the Queen and her household attend divine service while residents at Balmoral.

A grim sentinel, guarding well the

mystery of its past, is the old "standing stone" by the roadside near Balmoral Castle. Many antiquarians agree that it must bear some relation to feudal jurisdiction, and the adjudication of the sentence of capital punishment upon the criminals who met death on "the Hill of Hanging."

On the summit of Craig Lourigan, cut on separate blocks of the granite. A good pathway has been made along the mountain side winding up to the cairn. Many tourists have felt themselves amply rewarded for the toil in ascending the Craig by the charming views which extend from it in several directions.

To those who enjoy wild, grand scenery,



HUNTING LODGE OF THE PRINCE OF WALES.

near Balmoral, a cairn has been erected to the memory of the Prince Consort by his widow. It is a finely-proportioned pyramid of gray granite, built without mortar; the position of the tablet of inscription is shown on the right, beneath which, in a long straight row, the initials of every member of the royal family are

who do not hesitate at the prospect of a long, wearisome climb, the highlands in the region of Balmoral offer many attractions. To watch the upward climbing of the sun above the lofty hills, and the deepening of the shadows in those romantic vales, as day declines, is to gather a store of pictures of which one will never tire.

FORCE OF CHARACTER.

THIS heading has, we admit, a somewhat hard appearance and sound; but be not dismayed, oh, most gentle and appreciative reader! we do not mean to give—first, a definition of force; secondly, the various kinds of force; thirdly, define character, and so on, to fourthly and fifthly. We wish rather to advert to the undue importance frequently given to force, in comparison with duty, amiability, affection, generosity, faithfulness, courage, patience, discrimination, self-denial, and disinterestedness, all of which are requisite to form a truly harmonious and beautiful character. Then, to what purpose are so many parents and teachers continually harping on the subject of force, or grit, or spunk, or of independence, utterly neglecting those traits which should *precede* and be *concomitant* with them? We have felt sorry when we have heard those characteristics so unduly exalted in the presence of the young and docile, and more especially in that of women, who would not be commonly called on to exercise them. There are a few of us whose lot in life it is to pass through strange ordeals, in which force of character may well come into play; and there are, of course, more common occurrences in which, in its due place, it is inestimable; but it is the making it the *ne plus ultra* of character to which we object, which, as exemplified in daily life, results in abrupt, uncourteous manners.

We have seen handsome young women distort their pretty mouths, toss their heads as well as any theatrical chambermaid, and some even redden their eyes, to give an idea of their force of character. Instead of producing in us the desired impression, we were simply shocked to see how natural tendencies had been injudiciously nursed. Some persons doubtless have a vague notion that this assumed independence is an evidence of intelligence, when it is a perfect impediment in the way of progress; and its being so common deprives it of even the questionable merit of singularity. Now, we do not wish to go into the other extreme on the subject, and have girls foolishly dependent; but we do think that a young woman who was not brought up on this one idea of independent force of character, would seem very fresh and natural, and even have a better chance of being original, in some quarters, in comparison with those before described.

We read lately a passage in a discourse of a very eminent divine whose force of character is remarkably developed, in which he much depreciates those young ladies who are deficient in this wonderful force, and says that the world would not miss them, etc. Now this is, we think, extremely ungenerous in one as highly gifted as himself; besides, the remark about missing is of no value. It can not be expected that the world should miss us all; it is just these unobtrusive, amiable, or undemonstrative persons that the world does *not miss*, who help much to fill up the picture of life, and coarse and hard it would be without them. It is neither tasteful, necessary, nor possible for all to stand out prominently in the front-ground of the picture. What would a landscape be without any perspective, any background? We should bless God for those women who are not missed *outside* of the home, and in whose quiet obscurity they are content to remain.

We do not wish everything to be rough, jagged, and fierce physically; neither do we desire, morally, that all should be severe, stern, and forcible. We do not wish our shrubs to be changed to oaks; our pines and spruces to California cedars; our sea-side pebbles into huge rocks; our little snow-drops and violets to dahlias and sun-flowers; our gentle zephyrs to blighting east and north winds; all our undulating grounds to cold Alpine heights; our cats to tigers, or our house dogs to wolves or hyenas.

We should not attempt to make our children prodigies; we should not desire or require that our daughters should be Didos or Judiths, or that our sons should be Catalines, Cæsars, or even Washingtons or Wellingtons; but we should train them up to perform generous actions, and to meet evil with courage and calm-

ness, as much as is possible for their nature and sex, which should never be overlooked; and then if they are geniuses do not doubt that they will manifest themselves.

Force, unconnected with tenderness or gentleness, is a mere monster which ever seeks for something on which to exercise its vast strength and fierce desires. It was this force which was typified in past ages by the giants—a form of brutalized humanity—who, however they might triumph over the innocent and unprotected for a time, were eventually slain or taken captive by the brave and gentle knights, working in the name and through the power of love. It is the marriage of force and love that produces a harmonious character, although it is altogether better for variety that the love should predominate in some and the strength in others. We would have each in his place, developed according to his natural power and position. GRACE H. HORR.

TRIBUTE TO SPURZHEIM.

SAN MARCOS, Texas, *April* 18, 1885.

EDITORS JOURNAL: The following lines were written by me in 1849, and published in the *National Era*, of Washington, D. C. I have often thought of rewriting them for your pages, but for want of time the purpose has as often gone over.

SPURZHEIM.

UPON Columbia's farthest eastern shore,
'Neath fair Mount Auburn's dim funereal shade,
There is a tomb 'graved simply with the name
Of him who sleeps beneath; but 'tis a name
To shame all empty words of vain applause—
To bow the heart in silent reverence.

It is a spot where man may cast aside
The bonds which narrow and debase the mind;
Forget the boundaries of realms and states,
The names of country, kindred, caste, or clan,
The tyranny of party and of sect,
The ill-assorted, artificial things
Which hide from him the knowledge of himself;
And, standing in the presence of his God,
Assert a kindred dignity, and feel—
Though tottering on the pedestal of Truth—
He is a column of divinity!

Humanity, thou mixture of extremes,
Of strength and weakness, dignity and shame!
Thy proper models are not wholly lost—
Thy true exemplars yet remain with man:
So moved Aristides in Athens' pride;
Such Socrates, and good Epaminondas;
And such, in unapproached pre-eminence,
Stood the last Cato of the Roman State.
So, to the fame of Bacon and of Locke,
Towering above their lost and pigmy race,
Is linked the glory of SPURZHEIM'S name:
Great souls, unlimited by clime or clan,
The common property of all mankind.
Nor is the last the least; earth's annals long
Afford no better model of a man;
This is his name, his eulogy: A MAN!
His mission, to teach others to be men
Not monsters foul of bestial appetite,
Not animals concentred all in self,
Not visionary dreamers, high or low,
Not merely intellectual prodigies,
Nor any other partial nondescripts:
But to draw out *the whole*, in order fair
As the Ideal came to him from God.
Such was the great Philanthropist and Sage,
Meanwhile in manners simple as a child.

And still the structure he designed survives—
And will survive, for Truth is its support—
The universal and eternal test
Of Man, and all his powers and wild extremes.
Here relics of past ages, barbarous, dark,
Shall meet their condemnation; hoary forms
Of error stand rebuked; man learns his rights,
And honor them in man; Vice hide her face,
And Superstition quench her baleful fires.
Here shall the just proprieties of life,
And all the social feelings of the soul,
Receive their proper sanction, and pursue
Their true direction; empty Fashion shrink
Into her native folly; and Affectation
Doff her frightful mask. Thus rising Man,
Redeemed from Ignorance and perverted powers,
Knowing his public and his private rights,
Blest in his social and domestic ties,
Shall in his native dignity stand forth,
In harmony with himself and with his God.

Columbia! giant empire of the West,
That hold'st the ashes of this wondrous sage,
Wouldst thou fulfil the hopes that rest on thee?
Then shrine his counsels deep within thy heart!
Learn there, that the true grandeur of a state
Is based upon the knowledge, moral worth,
And happiness of Individual Man.
High were his hopes of thee; and here, content,
He closed his pilgrimage of Light and Love,
And laid himself to rest from all his toils.
My Country! wouldst thou flee thine own disgrace,
Or lead the high progressive march of Man,
Guard thou his dust and keep his counsels well!

ISAAC H. JULIAN.

BIOMETRY.

THIS new word for a new department of science, named by the Hon. Wm. Cassidy, of Albany, now deceased, from two Greek words, *Bios*, life, and *Metron*, a measure, may be rendered—"The Scientific Measure of Life."

The correct pronunciation of this word, according to modern *élite* usage, divides it thus—Bi-om-e-try, but its derivation is more conspicuous if thus-wise put—Bi-o-met-ry, or Bio-metry.

Prof. Sizer, speaking about this science, says: "As most people have an instinctive desire to live, whatever may be developed looking toward a scientific estimate of the length of life, can not fail to be gladly received as an important step in an unexplored field, rich in comfort to those who find thereby that they have promise of a long life, and of course a great opportunity for usefulness; while it has a needed monition to others to use wise precautions in adjusting their plans for life in accordance with its probable short duration. Moreover, it will aid in a most important manner in the proper adjustment of a safe, honest, and just method of life insurance, by which the naturally long-lived may be insured for what it is worth to insure them by themselves, and not be doubly and trebly taxed to provide means for paying losses on the naturally shorter-lived, who by a larger premium should pay enough to liquidate the losses of their own kind, even as higher premiums are always more prop-

DR. ANDERSON.

erly made upon frame than upon brick houses."

The advantages of this study are then quite evident, and certainly no branch of science is more interesting to all men, whatever their condition.

We shall therefore proceed, and by means of the two illustrations, Dr. Anderson and The Baby, upon opposite pages, will show how easy it is in young or old persons to discern the indication of long-livedness when they are decided.

These two beautiful pictures, made by the photo-engraving process, specially to adorn this article and to instruct its readers, are from real life, the doctor being eighty-four years of age when his picture was taken, and the doctor's baby but six months old.

Probably no one looking at these two very natural portraits would at first see any family resemblance between them, much less suppose that they are father or even grandfather and child. But after reading the above-said expression, the doctor's baby, and so it is, the baby will, by many, be found to verify exactly the features upon the opposite page: "Dear little thing, it looks just like its father"; and so it does, but that doctor is not Dr. Anderson. The name of the father we are not permitted to give.

At the time the picture of Dr. Anderson was taken—namely, when he was eighty-four—it was prevised that he would live to be ninety-five, or thereabouts. He died seven or eight years ago, when he was ninety-six, plus.

Does the reader see in the configuration of the two heads any proportional resemblances?

There are several that are striking, and that give the baby a right to expect to live as long as the old gentleman did.

We will notice at least four that appear at the very surface of the head. The reader may, if he pleases, compare points in which they differ. They certainly are unlike in regard to beard, and in some other respects there are differences not quite as conspicuous.

The four respects in which they evidently agree are: (1) Both are broad through the head from side to side, between points just in front of the ears and a little above the level of the orifice, that is, points close to the ear and just above the ridge of bone leading back from the cheekbone to the ear; (2) the distance from the bridge of the nose to the orifice of the ear in each picture is comparatively long; (3) the eyes are wide apart; (4) if a line is drawn around the head so that in front it rests upon the eyebrows and in the rear it presses the occipital protuberance, or if in the absence of that land or head mark, it comes around the rear of the head at the point where it

THE BABY.

begins to curve toward the neck, and if then from this line at a point over the orifice of the ear we measure down to the orifice, we shall have a distance that is unusually long in both these portraits—that is, in them the orifice of the ear is low down on the side of the head.

When a child has this measure (4) long, it is sure to live through all infantile and children's diseases, with little trouble to others, and without danger to itself. If this measure from the orifice to the line around the head is short—say not more than half an inch—the child can not "live to grow up," and there is no use in trying to "bring it up." The trunk of The Baby is large around and long, as is evident, and as the measures

of its head would indicate; while the features of the doctor indicate like facts in regard to his lower regions.

The ancestry of The Baby are, and have been, very healthy and long-lived on both sides, and they have given to him a right to climb up into the nineties. "Long may he wave."

The ancestral life of the doctor is unknown to this deponent, except as seen through his formation; this affords ground to warrant that it ran high on both sides, especially upon the mother's side, and it is evident that he chiefly takes after her side.

He was born in England, and came to this city at an early age, where he secured a good medical education. But, like many others, though delighted with its study he was not pleased with its practice, but took up for his life's work wood engraving, and as he was the first in this country to do any work of that kind he had to be self-taught. He was, on account of his education, especially fitted to give satisfaction in illustrating medical books, and most of those years ago were enriched by his labors. Forty years ago he did some very excellent work for the writer of this article.

He was a very pleasant, sociable man, familiar with New York as it was at the beginning of this century, and during the war of 1812–15. He lived and worked, then, "way up-town," on the north side of Fulton Street, between Nassau and William, in the third or gable story of a frame house long since burned down, and with it all his tools and other accumulations; and as fire insurance was then unknown, he had to start in life again by getting credit for his tools, and going to work with greater diligence than before.

In another Number of the JOURNAL will be given the internal conditions of the doctor and of The Baby, by virtue of which the external indications above mentioned are produced.

T. S. L., M.D.

IS IT WORTH WHILE?

IT was my fortune at one time to find a home in a refined, Christian family where everything was done for the comfort of me and mine, and where I passed a few happy months. It was, in short, just such a place as we all seek when temporarily obliged to give up the pleasant cares and the enjoyments of housekeeping, and to resort to boarding. In this family were two young daughters who were attending the high-school, and fitting themselves to follow what had hitherto been the lifelong vocation of their parents—that of teaching. Their entire education, with the exception of one or two years of schooling elsewhere, had been received from their parents.

The mother, a delicate woman, did all the housework for twelve or fourteen persons with such little help as her busy girls could spare from their studies, or her husband from his day's employment.

Often she nearly fainted beneath the burden too heavy for her frail shoulders, yet she never thought of taking one of her daughters out of school to assist her, notwithstanding she could not, or believed that she could not, afford other help. It was her boast that they had not been late or absent once during the entire year, and no motive was sufficiently powerful to induce either her or them to break this record.

So faithful were these sisters to study, that from three to five hours a day, in fact all their spare time, were given to study. They rose early to pore over their books before breakfast, and toiled late by lamplight, sometimes until midnight.

I often pitied the elder, who was thoroughly domestic in her tastes and really enjoyed household tasks, and to whom lessons were a hardship. To the younger, learning came more easily, and her rank was always in the "nineties."

A lady of considerable culture, who was also boarding in the same family at the time, said one day: "This is a dog's

life! These poor girls have not an instant they can call their own. It is hurry, hurry, from one thing to another, from one day to the next. Even their meals are eaten a mouthful at a time, for they must jump to wait upon others. It would *kill* me. My brain would refuse to perform its functions, or at least would not properly fulfil them. And after all, what does it amount to? I do not believe it is worth while."

My opinion coincided with hers. Precious hours were being devoted to a mistaken cause.

"Why?" do you ask. Because, however well prepared these young ladies might be in the higher studies, their rudimentary education was sadly deficient. I have heard them inquire of their father the diameter and circumference of the earth, before being able to solve a difficult problem in physics. As to their English grammar, it was simply terrible. The continual use of "come" for came, "was" for were, "awright" for all right, etc., together with the numerous inelegancies of their common utterances, betrayed a total lack of that command of language, correct and pure, so essential to those who would lay claim to good culture.

I do not believe that they themselves were conscious of any inaccuracies in their speech. How could they be, when their father, who had been principal of a large public school all his life up to that time, himself used "learn" for teach, "heared" for heard, etc.

Good, gentle, refined, and ladylike as were these young ladies, conscientious and faithful teachers as they were sure to become, what mother of any culture would wish to place her child under such instruction? The habits of childhood are very strong, and even though in after-years one may learn to avoid many forms of speech or mannerisms acquired in early life, yet an occasional lapse will often betray the most careful, and this probably at a time when wishing to make the best appearance.

Mothers, this is largely within your control. If you allow your little one to use "I don't know nothing," or "I ain't," or "don't chew" for "don't you," to indulge in the superfluous use of "got," and the hundred and one trifling faults in pronunciation or grammar so commonly heard, be sure you will regret your negligence.

Said a gentleman to me, when discussing a similar subject some time ago: "My uncle and aunt have never left their children to the care of the ordinary hireling, however faithful. They claim that a child should hear only the best of language from its cradle, that pure English may become 'second nature.' One language, well understood and correctly spoken, is worth three or four imperfectly known. My uncle has always had in his family some refined, educated gentlewoman whom poverty has compelled to earn a livelihood, and who, although physically inferior to the usual Irish or German help, has rendered services of incalculable value in forming the manners, the morals, and the habits of thought and speech of his little ones."

Remembering this, it occurs to me that many may have some such person connected with them by ties of relationship or of friendship, to whom the home comforts which they could offer would be very acceptable, and whose influence for good upon the younger members of the family would be a thousand-fold higher than that of a regular nurse-girl.

The busy mother can not always give more than her personal supervision. Other important duties claim a large portion of her time, however much she may regret that she is not able to have the entire charge of her children. How thankful, then, to know them in good hands, not only as far as the physical welfare is concerned, but the mental also.

It is the mother's and the nurse's province to lay the foundation of the child's education. If this be faulty, is it worth while to try and build an elaborate superstructure? Accomplishments can not gloss over the patent faults of ordinary language. Even the loud or shrill tone reveals the lack of breeding.

Ask yourselves, then, parents, is it not only your desire, but your duty, to see to it that the underpinning be solid, in order that, however fanciful the building to be upreared upon it in future years, the whole may present a uniform elegance of design and workmanship, alike pleasing to the beholder appreciated by the fortunate possessor, and creditable to the builders, especially to those who had the important task of laying the corner-stone?

Can you accomplish this desired end without the greatest watchfulness over your own manner of speech? Example teaches more strongly than precept. The faults of the parents, moral and intellectual, are very likely to be reproduced by the offspring. Do not give your child the right to say in mature years: "Had my parents used better language, I should not now need to be ashamed of my own faults, of which I am so conscious when in conversation with those whose education has been superior to my own."

In this age of general information, of dictionaries, of good literature within the reach of the poorest, the parent whose aim is high may rise above his level if he will; thus enabling his posterity to climb still more successfully the heights of learning, for "knowledge is power." Yet while soaring ever upward, clip your aspirations when they would reach above your personal limit. Be content with doing what you can do well. Above all, see that your child's education has a firm foundation, without which his future study of the higher branches will be hardly "worth while." A. E. H.

AWAKENED.

It broke upon the Autumn air
A sharp, imperious peal,
And snapped the cord of slumber short
That bound my mid-day zeal.

It rang again, ah, bells and doors
A hundred feet apart!
Ah, servants out! But I must go
To welcome the dear heart.

A spectacle forlorn and wan
Beyond my worst conceit
Stands crouching on the marble-step,
And begs with naked feet;

A woman with a tiny life
Beside her own to keep,
A haggard wanderer of the dust
With unborn babe asleep.

"No food, no clothes"; a contrast wide
Between thy life and mine.
Some surplus ray of ease I bid
Go drifting into thine.

Though disappointed not to greet
The warmth of loving arms,
Recoiling to see on the street
Such absence of all charms.

The peal and plea awake my heart
From mid-day slumber's spell.
I know the dear Lord asks of me,
"Are all my children well?"

MRS. S. L. OBERHOLTZER.

THE SQUIRE'S "COME-UP-ANCE."

CHAPTER I.

MISS BIGELOW had accomplished all the good she could during the year, but like many another she desired to do something which would surpass all previous efforts on Christmas.

"If there's anything to do it'll come to me, I suppose," she remarked in the hearing of her somewhat irascible brother, Squire Bigelow.

"How will it come to you?" the gentleman inquired with his short, contemptuous laugh.

"How do I know how it will come?" his companion replied. "If folks hold themselves ready to be of service in this world, their hands 'll be pretty full, I guess. It is all in being in a receptive condition, brother."

"Bosh!" said the Squire. "You women-

folks will trim half a dozen Christmas-trees, make twenty or thirty young ones sick enough to die with candy and stuff, and spread scarlet-fever and measles from one end of the town to the other, and then brag about doing good in the world."

"They say there's a very poor family moved into the house by the mill, Jonathan," Miss Bigelow resumed, without paying the slightest attention to her companion's criticism. "I think I'll run over there this afternoon and see if there's any pressing need."

"You'd better stay at home and mend your stockings," said the Squire. "Folks that gad round the world in your fashion must wear their stockings to ribbons."

"Mine are all mended, and so are yours," was the undaunted response. "I suppose," the lady added with the cheeriest chuckle in the world, "that if they're very badly off over there, brother, you'll be glad to contribute."

"You know I won't give 'em a cent," growled the Squire. "What's the use of perpetually talking to me about beggars?"

"On the principle that a continual dropping will wear a stone," was the unflinching answer.

At this point the conversation was broken in upon by a neighbor who had called to talk to the Squire about the church-music. Strangely enough this cross-grained old gentleman was not only fond of music, but he was also an authority, and was President of St. Peter's music committee. The organist had been imperatively called to another field, and there was to be a meeting that evening to take action upon his resignation.

The Squire scowled and growled, and declared that he'd been expecting it. Phillips was just the man to leave folks in the lurch. Better shut the church up Christmas and give it a rest. It was no use to try to do anything in this world, anyhow.

"I don't take such a gloomy view of matters as that," the visitor remarked. "There is no gainsaying, though, that it is a very awkward state of things," and then turning to Miss Bigelow, "Don't you think you could help us out?"

"What does she know about an organist?" the Squire muttered.

"She has shown an astonishing familiarity with many tougher subjects," said the visitor, "and I didn't know but what 'twould sort of come to her how she could help us."

"Do you hear that, brother?" Miss Bigelow laughed. "As likely as not it will," she added musingly. "What do you say to giving me till to-morrow evening, to try and find a suitable person?"

"Well, I guess we say, Yes, by all means," the guest replied, feeling a comfortable sense of relief, now that Miss Bigelow had put her shoulder to the wheel.

"And unless you hear from me to the contrary, have the church lighted and warmed, and each of the committee on hand to pick all the flaws possible," the lady added briskly.

"'There!' said I to my wife, 'just as sure as you sit in that chair, Miss Bigelow will help us out,'" the visitor exclaimed with enthusiasm, "and I declare if she hasn't somebody in mind already."

"Matilda knows as much about music as she does about farming," the Squire remarked; but all the same he felt a little lighter in spirit now that his active and generally successful relative had promised to assist.

. . . . . .

"Well, Harry, how are you? and, Dame Trot, how are you?" said Miss Bigelow, bustling into a small room in a bird-cage of a house, situated on the outskirts of the town. A young man, pale, and evidently just recovering from a serious illness, lay on the bed the picture of despair, while a sweet-faced little woman sat by his side, engaged in the somewhat difficult business of trying to brighten up her patient.

"I've brought you some soup, my boy, that'll put new life into you, and some oranges that were grown on purpose to please your fastidious taste," the newcomer rattled on cheerily; "and for you,

Madame Bigelow, I have news—the most astonishing news in the world."

"News for poor Marie?" the invalid remarked wonderingly, a new light in his face already—"What can it be?"

"Yes, news for poor Marie," said Miss Bigelow, "but why you always will insist in calling her poor, is beyond my comprehension. She has got you—she came pretty near losing you! though—and she has got me, and more than all this richness, she has now come into possession of a church and an organ."

"Auntie, dear, *what* do you mean?" and now a trembling little hand was placed on Miss Matilda's arm, and a pair of great brown eyes swimming in tears were lifted to her companion's face.

"You'll make a great fist playing for the committee to-morrow night, if you're going to shiver and shake in this fashion," was the smiling response. "I mean just what I say. The organist of St. Peter's has taken French leave, and I am delegated to find somebody to fill his place, and here I am."

"But, Auntie, you know very well that Uncle Jonathan would never forgive you if you were to——"

"Stuff and nonsense!" Miss Bigelow interrupted. "My plans are formed, Harry, and you will please not interfere with them. I have got the key of the little Methodist church down the street, and I want Marie to go immediately there and practice some Christmas music. I will stay with you."

"But, Auntie," the young man began again, and was again interrupted.

"Harry Bigelow, did you ever know any of my plans to miscarry? Your uncle never saw Marie, and he don't even know that you are within a hundred miles of him. Nobody ever speaks to him of you but myself. To-morrow evening I take Marie to St. Peter's. Men are all cowards; so the committee, for fear they will not like the new candidate's playing will remain in the body of the church. This cowardice will give Marie a chance to keep cool. After she has distinguished herself—which, of course, she will—I shall present her to the overjoyed committee as Mrs. Low. When they afterward discover that the brilliant performer's name is Bigelow, they will simply distrust their own ears and exonerate me."

"And then?" the invalid asked, with so merry a laugh, that his wife was obliged to smile through her tears.

"After that—ever so much more beside. But it will all depend upon how the cat jumps, Harry," and now the visitor's sweet and benevolent face grew stern and firm. "If I can not convince your uncle, this Christmas, that you have suffered enough on account of having married the loveliest little darling in the whole world, then I think I shall pack my trunk and go West. There'll be no further use for me in these parts."

"Take us with you, then, Auntie dear," said the invalid, with a pitiful quiver of the lip. "But for you I should have died, and poor Marie too."

CHAPTER II.

THE organ-loft of St. Peter's was brilliantly lighted the next evening, and just as Miss Bigelow had predicted, the committee kept in the shady background. Before Marie left the house her husband drew her down, and said softly: "Make copious selections from the *Messiah*, dear, and be sure and end with 'He shall feed His flock.' That is my uncle's favorite."

This programme was literally carried out. The organist was to play half an hour, but it was more than double that time when the performance ceased. As it neared the end, Aunt Matilda went softly down into the body of the church, and took a seat near her brother. "And He shall feed His flock"! How pure and sweet the melody, how firm and true the tender touch, how heavenly the spirit that descended upon this little group of listeners! The Squire wiped his eyes, and his sister saw him do it, and was satisfied.

When the last notes died away this gentleman rose, whispered something to a member of the committee and left the church. This is what he said: "Engage

her by all means. I'm in something of a hurry."

The day before Christmas, Squire Bigelow made some inquiries concerning the new organist.

"Has this Mrs. Low got any family?" was the first question asked.

The Squire stood looking out of the window, and drumming somewhat nervously on the pane.

"She has a husband who is just getting over typhoid fever," said Aunt Matilda, practically.

"That all?"

"That's all."

"How came there to be such an organ-player as this in town and I not know it?" was question number two.

"There are lots of things in town that you don't know anything about," said Miss Bigelow.

"Does this Mr. Low go out?" the gentleman inquired, quite oblivious to his companion's curtness.

"I guess he could go out if somebody should send a carriage for him."

"Well, I've been thinking it would perhaps be a very decent thing to invite this Mrs. Low and her husband to dinner to-morrow; that is, if you've got anything fit to eat," said the Squire. He was ashamed of himself; ashamed that "He shall feed His flock" kept running so incessantly through his head that it would soften his heart whether or no; ashamed that he felt homesick for the nephew he had turned out of doors on account of his marrying the girl he loved; ashamed that he could not hide this heart-ache from his sister, who he was sure would sooner or later take advantage of it.

"I've got plenty of dinner, and it's good enough for the queen," said Miss Bigelow, "and I'll invite these folks to dinner, Jonathan, on one condition."

"What's that?" said the Squire. "I'll be hanged if that ain't just like a woman."

"That you don't act like a bear with a sore head all day, and snub these two forlorn children right and left, and that you promise on your word as a gentleman that you will never blow me up afterward for doing exactly as you told me to do," said Miss Bigelow.

"What do you take me for?" growled the Squire.

"For a very ridiculous and obstreperous old fellow, who tries to make himself out a hundred times worse than he is—as if the original human wasn't bad enough. That's what I take you for, Jonathan."

The Christmas service was an unqualified success. The organist had covered herself with glory, both as to her playing and her training of the choir. And when they sang "He shall feed His flock," the Squire tried so hard to keep the tears back, that his expression was something so ludicrously awful or awfully ludicrous, that his sister, who was already on the verge of hysterics, began to laugh, and came very near disgracing herself forever.

Mrs. Low trotted along beside the Squire from St. Peter's to the house. She was so nervous that she could hardly speak, but Auntie filled in the gaps in such a way as to quite cover her companion's confusion. The carriage had been sent for Mr. Low, and just as the trio reached the gate, the Squire's fat horses were reined up, and the coachman was assisting the occupant of the carriage to alight.

"Well, I'll be," the Squire began, but he was immediately interrupted by his sister.

"Remember your promise, Jonathan," she said, and then the Squire put his strong right arm about the poor fellow's waist, and without a word helped him into the house. Then both men broke down, and then "poor Marie" played a soothing, helpful little something of her very own on the grand piano, and then the Squire kissed her and praised her, and after that Miss Bigelow sat down on her brother's knee, put her arms about his neck and almost cried her heart out.

And verily—"He *shall* feed His flock."

"ELEANOR KIRK."

ELIZABETH FRY, THE QUAKER PHILANTHROPIST.

SIMPLE, shy, young Betsy Gurney in her English home a hundred years ago, little dreamed that in later life she would become famous, and win for herself the admiration of the multitudes who appreciate her noble character and deeds of mercy. She was born on May 21, 1780, at Norwich, England, and was one of a family of twelve children. Her parents were members of the Society of Friends, though not of the most strict order. At the time when the maternal training could least be spared, at the early age of twelve years, Elizabeth had the misfortune to lose her excellent mother, whom she dearly loved. In her childhood Elizabeth was not remarkable for talent—in fact, was even stupid in studies; and this, combined with delicate health, made her seem backward in comparison with her sisters. She was also possessed of some obstinacy and a spirit of contradiction, which afterward developed into the better traits of firmness and perseverance. While yet in her teens, she went through a struggle with an inclination toward frivolity and worldliness; but the higher principles conquered, and directed her steps upward and onward toward a more noble life.

At the age of twenty she married Mr. Joseph Fry, a wealthy Quaker of good position, after taking into account, in a manner remarkable for a young woman, the comparative advantages of single and wedded life as they might affect charitable and religious work.

Her home after marriage was in London, at her husband's place of business, and there some of her children were born.

There was plenty of opportunity for the exercise of philanthropy in the city, which did not abound in public and private institutions for the relief of the needy as now. Like all other charitable people, Mrs. Fry was sometimes imposed upon; but she did not, in consequence, cease her self-denying efforts in behalf of the poor and degraded. Slowly, but certainly, in God's own way, she was being trained for the important work He had allotted to her.

After the death of her father in 1809, the power to pray and "bear testimony" in public was given to her, and she became a "minister" of the Quaker order, being acknowledged as such by the meeting. Two years later we find her visiting the horrible Newgate prison, and trying to relieve the miseries of the female inmates. The innocent and guilty were huddled together in quarters much too limited for their numbers. There was little restraint of discipline or decency; and even the chief officer of the prison dreaded to enter this portion of it.

In 1817, after passing through domestic afflictions, illness, and loss of property, Mrs. Fry began her great work as reformer of prison abuses, in good earnest. She found she could reach the hearts of the most abandoned women through their love for their unfortunate children. These women chose one of the best of their number as school-mistress, and the education of the children began.

Kindred spirits were drawn toward Mrs. Fry, who aided her in her great undertaking, and very welcome was their support and coöperation. Other friends helped the good work by contributing and soliciting necessary funds; for we must remember that this was only a private and charitable enterprise.

By slow degrees a complete change of affairs was brought about. The women were taught to work, and were decently clothed. A set of rules was prepared, read and explained to them, and the prisoners willingly agreed to be governed thereby. From being a place of horrors, Newgate became, under the wise administration of the gentle Quaker lady, a place of peculiar interest.

The authorities watched the progress of the reform with delight, and bestowed praise and thanks unstinted. The needs of female convicts about to be transported to the penal colonies, soon drew the attention of this devoted woman, and her

influence and personal labor were freely used to reform abuses among them.

Then, in search of new worlds to conquer, Mrs. Fry visited other prisons in England, and in 1838, with her husband and two other companions, went to the Continent on a tour of inspection. Her fame had gone before her, and she was everywhere welcomed and treated with the utmost respect. The journey resembled a triumphal progress more than anything else. Honors from kingly hands were showered upon her, enough to have turned the head of a less steadfast person.

And thus, in one noble achievement and another her life was spent, doing good to the suffering and needy. Rarely has a genuine philanthropist won such complete and successful recognition as did our heroine. As her strength waned and death approached she had the satisfaction of leaving the various enterprises she had established in the hands of interested persons who had been inspired and taught by her.

On October 13, 1845, the beautiful spirit of Elizabeth Fry returned to its Creator, and the body was laid in a quiet grave at Barking.

MARY WINCHESTER.

BELLE NUIT.

No sound save night-winds hushed, and low, sweet murmur
Of moon-kissed waves caressing shining sand;
While veiled in beauty, Night's protecting angel
Scatters dream flowers o'er the sleeping land.

Here softly touches eyes grown dim with weeping,
Changing each bitter drop to gleaming pearl;
There weaves love's fancies o'er some dreaming maiden,
Or leaves a kiss on baby's golden curl.

Day is for weary toil, care, tears, and sorrow,
But beauteous Night doth angel vigil keep;
Coming love-laden from celestial garden
To open Heaven through the gates of sleep.

I hear the music of her coming foot-fall,
Catch the faint gleam of trailing garments bright;
And stay to whisper in the gloaming shadows,
His angels keep thee! Happy dream! Good-night!

CALLIE L. BONNEY.

THE CHRISTIAN CHURCH—ITS HISTORY AND DIVISIONS.—No. 5.

THE REFORMATION.

FROM the time of its foundation there were individual protests against some one or other of the doctrines, forms, or ceremonies of the Roman Catholic Church, but in the early days they came from those too weak to sustain them, and the disaffected were silenced. The power of the Church was paramount, and it would consent to nothing less than implicit and entire obedience. Belief or assent that the Church was without error and never could err was demanded of all, and penance, excommunication, or death was the fate of such as denied it. As time passed the numbers of the dissatisfied increased, and various sects were formed antagonistic to the practices of the Church—as the Manicheans, Cathari, Albigenses, Waldenses, and others. Some of these were directly and entirely opposed to the creeds and practices of the Roman Church, and desired to form and establish an entirely different faith; while others would have been satisfied with certain changes in form and practice.

One after another of these sects disappeared, the Waldenses, founded about 1170, alone surviving, "because," says Archbishop Trench, "resting on a Scriptural foundation they alone were worthy to survive," and many of their opponents admitted "they were sound in their faith in all that related to God, and received all the articles of the creed," but against certain glaring corruptions of the Church they were uncompromising; and it is said that "what the Waldenses learned to hold and teach after contact with the Hussites

in the fifteenth century, and still more after communications held in the sixteenth century with some chief Continental reformers, has been regarded as that which they held from the beginning." However that may be, we may safely say that from the first formation of the Society, they worked steadily and continuously to reform many of the doctrines, constitutions, and rituals of the Romish Church, "not in the spirit of heresy, but of disorder"; and while at first it seems their only difference with the Church was their assumption of the right of all to teach and expound the meaning of the Scriptures, in aftertimes differences increased until they were excommunicated as heretics. They came to deny the supremacy of the Pope, and insisted the clergy should imitate the Apostles, and earn their living by their own labor. They denied that transgressions could be expiated except by prayer and penance, as held by the early Church, and opposed the sale of indulgences, which they looked upon as an invention of the avaricious clergy. The doctrine of an intermediate state of punishment or purgatory they entirely repudiated, and in other matters were at variance with the Church of Rome. Their opposition brought on them most barbarous and inhuman persecutions, notwithstanding which they continued to exist until the Reformation was well under way, when they became mostly merged with other denominations; but a few are still found in Piedmont, where they are usually known as Vaudois.

About the beginning of the 14th century societies for aiding the sick or needy were formed. Their practices aroused the jealousy of some of the orders established and supported by the Church, as monks and friars, and they were branded as heretics; and finally, the name given them, Lollards, became in some sections almost synonymous with heretic; and under this name, in England, many were burned, while at the same time on the Continent many societies holding the views and following the practices of the original Lollards, were by the Pope held as innocent of offences against the Church.

It would be impossible in the space allowed for this article to even name the various persons, and the means they employed to effect reformations in the Church, which, while they met with no marked success, were not without their uses; but it was not until the 14th century that the work can be said to have had a definite beginning. In 1324 was born Wycliffe, who may be called the father of the Reformation. He was a philosopher, a schoolman; and his logic naturally led him to take a position in theological questions different from that commonly held. We find him among the first advocates of the separation of Church and State. His labors in translating the Bible into English, while of little service during his lifetime, were an important factor in the cause of reform in after-years.

His theory of dominion was that God was the supreme governor, and that He had never delegated His power in that respect to Pope or priest. John, king of England, had agreed to pay the Pope a certain yearly stipend as vassalage, which payment succeeding kings had refused to pay. In 1365 Urban V. demanded the payment of arrearages for thirty-five years. Wycliffe, then royal chaplain, opposed its payment, and doubtless had much influence with the Parliament that disallowed the claim.

This denial of the authority of the Pope in civil matters was in the same spirit with which he opposed the mendicant monks and friars, who at that time were demanding their support from the people, and opposing the spread of learning. They had become very powerful by their influence on the common people, who dared not lift a voice in condemnation of well-known practices against the morals of society, but Wycliffe hesitated not to openly accuse them of wrong-doing. Evidently he desired to have all monastic institutions abolished, their wealth distributed, and a priesthood established that should depend for its support on the

voluntary contributions of the people. Such teaching could not fail to bring upon him the anathemas of the Church, and he was declared to be a heretic of the worst class.

From time to time he promulgated doctrines adverse to the established beliefs of the Church. For instance, on the question of transubstantiation, he held that while the act of consecrating the bread and wine at the Sacrament endowed it with the real presence of the body and blood of Christ, the material bread and wine continued to exist as before. This was heresy sufficient in itself to warrant the Church in his excommunication and sentence to death. But this was only one of the many differences with the teachings of the Church, and it is no wonder he aroused its antagonism and was condemned for his heretical doctrines promulgated in tracts, in which his views were clearly and forcibly expressed. Why he was not arrested and executed, as many less obnoxious had been, it is difficult to understand. He was stricken with palsy in his pulpit, and died three days later, on December 31, 1384. But his enemies could not be content to let his remains rest in peace, and years afterward his bones were burnt and then scattered in the river Avon.

> "The Avon to the Severn runs,
> The Severn to the sea,
> And Wycliffe's dust shall spread abroad
> Wide as the waters be."

While Wycliffe and others in England were laboring in their own way to produce desired results, many on the Continent were diligently and conscientiously striving to accomplish the same ends. We have spoken of various sects, among all of which were bold defenders of their positions, and as the corruptions of the churchmen became more open and notorious their opponents were strengthened in their opposition. The condition of affairs is well expressed by a writer of the time, who, although not entirely in harmony with the reformers, said: "In the clergy there was no discipline whatever; in the courts of the Pontiffs there was public Simony; in the monastic state, if I may use the term, there was unbounded covetousness; and to make an end, there was no vice among the lay people that the clergy had not practiced first and most notoriously."

Passing without mention many whose labors in the cause of reform were not without great influence, we stop to consider those of John of Husinetz, a town in Bohemia. He was commonly known as John Huss; was born about 1369; well educated, and ordained a priest, but can not be ranked among the first theologians of his day. He was doubtless influenced by Wycliffe's teachings, and although differing with him on some prominent questions, agreed that the governing principles of the Church should be the supreme authority of the Scriptures, and that there should be right of appeal to God in all questions of conscience. He avowed his adherence to the Church, and claimed only a desire to reform its practices. But such avowal was without avail, and he was summoned before the Council of Constance for trial, condemned, and notwithstanding the civil powers had promised him safety to go and return from the Council, the safeguard was unheeded and he was burned.

In spite of all persecutions the spirit of reform waxed strong and had valiant and able supporters in all ages; but we must pass on to the times of Luther (born 1483), who has often been called the father of the Reformation; but such honored appellation is not his due, nor did he fail to give credit to those who preceded him in the good work. Some one has aptly said, "Luther but hatched the egg that Erasmus laid," and between the death of Huss and the beginning of Luther's work—nearly an hundred years—there were many who earnestly combated the error, and in many cases they seem to have arrived at the same conclusions from their own individual point of view.

The spirit of truth is universal and ready to enter any mind prepared to receive it. Luther said that without being

aware of it he had held and taught the same doctrines as Huss, and that John Staupitz had done the same; in fact, said he, "Paul and Augustine are Hussites to the very letter." In 1517 he took strong grounds against the sale of indulgences authorized by Pope Leo X. Soon after his ideas seem to have taken form, and he prepared his well-known Ninety-five Theses, a copy of which he nailed to the palace door, to attract the attention of the people. In this he was supported by the Elector Frederick of Saxony, and received much aid in his disputations from Melanchthon, then only 21 years old.

In 1520 the Pope issued a bull against Luther, one result of which was to cause the publication by Luther of arguments sustaining his position on points in which he differed with the Church, the principal of which were as follows: the separation of the temporal and ecclesiastical governments, claiming that the Pope had no authority over civil matters, thus upholding the doctrines advanced by Wycliffe; the denial of the claim that the Pope alone could rightly interpret the Scriptures, and that his interpretation must necessarily be correct, and also that he alone had a right to summon a council to discuss matters relating to churches. He held with the Church the eucharist and baptism as sacraments, but denied the sacramental character of the other five. As to the change of bread and wine used at the eucharist, he agreed with Wycliffe that their substance remained after consecration; but that in them was also the real presence of Christ—consubstantiation as against transubstantiation. There were many other points on which he differed with the authorities of the Church, all of which he stated in full in his 95 Theses.

In 1520 the Pope issued his bull of excommunication against Luther. When it was received at Wittemburg, Luther had it carried in a procession, together with copies of the canon law, outside of the city walls and burnt.

By this time the numbers and influence of the reformers had become so great as to control the action of several of the principal civil rulers, among whom was Frederick of Saxony, who gave Luther his approval and protection. About a year previous the Emperor Maximilian, who had supported the Pope, died, and Charles V. reigned in his stead. Charles, while feeling kindly toward Luther, desired the Pope's friendship and support. The Diet, a convention or council of the reigning princes of Germany, in 1521 held a session at Worms. The Papal representatives demanded that Luther should, without formal trial, be condemned; but as some members of the Diet objected to such summary proceedings, Luther was ordered to appear for trial. His friends, remembering the fate of Huss, entreated him not to go to Worms. He replied: "I am lawfully called to appear in that city, and thither I will go in the name of the Lord, though as many devils as there are tiles on the houses were there combined against me." The Diet refused to condemn him, and having the safeguard of the Emperor, he left the city unmolested, but a few days afterward the Emperor issued a decree, by authority of the Diet, depriving him of all privileges of citizenship, and directing all to seize him so soon as the time named in his safeguard should have expired.

Meantime Frederick the Elector, fearing for the safety of Luther, laid a plan by which he should be seized on his return from Worms, and conveyed to the castle of Wertburg, where he was kept secreted for several months.

Political changes having occurred that distracted public attention from Luther, he came out from his seclusion, and in March, 1522, appeared in Wittemburg. The Emperor's edict now caused him no trouble.

In 1529 a new Diet was held, at which the power before delegated to princes, permitting them to govern in ecclesiastical matters within their respective dominions until the meeting of a general council, was revoked, and any change that had been or should be made by them in

the doctrine, discipline, or form of worship of the Roman Church was pronounced unlawful, against the solemn protest of those princes who favored reform and to whom the name of *Protestants* was first applied.

We can not follow extensively the works of Luther. His teachings found lodgment with the people, and the power of the Pope waned. At the celebrated Diet of Augsburg, in 1530, these Protestant princes presented the "Confession of Augsburg," a paper of 28 chapters, prepared by Melanchthon, under direction and advice of Luther and others. In this was set forth with much explicitness the religious opinions of the reformers, and the reasons for their separation from the Roman Catholic Church. Of this Confession, which is at the foundation of the Lutheran Church, we shall speak further when treating of that denomination.

Luther lived until 1546; long enough to see the success of the Reformation he had done so much to promote. While he was doing such noble work in Germany, others in their own countries, and in their own ways, were aiding the progress of the cause. Most prominent among these was John Calvin, whose teachings have permeated Christendom, and become the chief corner-stones of the creeds of most of the so-called Evangelical denominations.

Calvin was born in Noyon, France, in 1509. He was educated with a view to his entering the study of law, and it was while pursuing his legal studies in Orleans that his attention was turned to theology, soon after which time he began to preach reformatory doctrines and enrolled himself with the Protestants. In 1533 he was preaching in Paris, but such was the opposition that he with others was obliged to leave that city. In 1535, at Basil, he prepared his "Institutes of the Christian Religion," a work that because of its clearness of statement and its logical reasoning became deservedly famous, and has served as the doctrinal standard for many of the Reformed churches.

Soon after we find him in Geneva, where were many reformers without a proper leading spirit among them. Being persuaded to accept the control of affairs, he soon found himself directing not only the religious affairs of Geneva, but of all the country of which it was a centre, and at the head of the civil government as well. He was the governor of the moral, social, and political life of the citizens, and made rules so harsh and arbitrary as to raise strenuous opposition. A party arose called Libertines, who gained the ascendency, and in 1538 expelled Calvin and many of his principal supporters from the city. But their power soon declined.

As between a too loose government and a severely austere but good one, the people chose the latter, and Calvin was recalled in 1541, when, although the Libertines remained a strong party, he resumed his position at the head of the government of both Church and State. A writer has well described him as follows: "None can dispute his intellectual greatness, or the powerful services that he rendered to the cause of Protestantism. Stern in spirit, and unyielding in will, he is never selfish or petty in his motives. Nowhere amiable, he is everywhere strong; arbitrary and cruel when it suits him, he is yet heroic in his aims and beneficent in the scope of his ambition."

Fixed and determined that he was in the right, he could brook no opposition, and met those who did not agree with him in a spirit not entirely consistent with the teachings of that Gospel he so energetically preached. Of that charity that suffereth long and is kind, he had little. His controversies with those among the reformers who did not accept his particular views were bitter in the extreme, and the fate of Servetus, for whose arrest, trial, and execution, although usually charged to the Roman Church, he must be held responsible, will always remain an indelible stain upon him.

Calvin was naturally an organizer, and it was mainly in consequence of his efforts that many of the Protestants of Switzerland became consolidated and united in a Confession of Faith, the principal points of which are still known as the Five

Points of Calvinism, of which predestination and irresistible grace are the principal, the perseverance of the saints and particular redemption being really only logical deductions from the others, while original sin is not exclusively a Calvinistic doctrine. These points may be briefly defined as follows:

Predestination, a decree of God, whereby certain of the human race are from the beginning elected and foreordained to salvation. *Irresistible Grace*, a power or influence of the Holy Spirit over the elect, whereby they are led to live lives of holiness. *The Perseverance of the Saints*, or elect, in lives of holiness, is secured only by this irresistible grace. *Particular Redemption* is only another term for the election of a few to everlasting happiness. *Original Sin* was the sin committed by Adam and Eve, of the guilt of which all their descendants partake, and for which they are held accountable.

Calvin died in 1564. His work was taken up by Beza, who was the leader of the church of Geneva for forty years. As a teacher he was less antagonistic than Calvin, harmonizing differences more by yielding than by insisting on his own views in matters of little consequence. His theology was received through Germany, in Holland, and found its way to England, where it was to an extent incorporated in the Anglican Church.

From this time the reformers began to divide into sects or denominations, differing somewhat in beliefs, and more in the form of church government.

LESTER A. ROBERTS.

THE STUDY OF HUMAN NATURE.

TRUE it is that we have often sudden impressions of character—impressions at first sight—usually unfavorable to the character of a person whom we meet for the first time. All observers of human nature have this kind of experience; and, what is most remarkable, we are liable to have this bad impression of the bad character of one who has been commended to us for his moral worth. . . . . Then we determine that we will forcibly repress all our bad feeling and show such perfect courtesy to the suspected "rogue" the next time we meet him as shall completely efface from his mind any uneasiness or displeasure which our roughness may have caused him. And, perhaps, an intimacy follows—an intimacy that may be called friendship; and it may last some time. But the discovery comes at last, and comes bitterly, that our first impression regarding this man, as bad as it was, was the true one. The oldest and deepest students of human nature unite to assure us that such has been their experience again and again. How is this? Does the soul of a man sometimes look so significantly through his eyes, and give such an unmistakable expression to his face, that a close observer can not fail to read the living manuscript unerringly? It must be so. The so-called sciences, imperfect as they may be, of Lavater and Gall, are alike *founded* on truth. Thousands of facts you may gather from sculpture and painting show that men always had a belief in something like what we call "Physiognomy" and "Phrenology." And we feel sure that Da Vinci has not erred in giving such a villainous face to Iscariot in the immortal picture of the Last Supper. Judas must have looked like the incarnate demon that the Saviour pronounced him to be when he had fully yielded up his soul to the dominion of Sin. In like manner, we all feel sure that, although the word "phrenology" had never been uttered in the sixteenth century, none of us could have stood in the company of men wearing such heads on their shoulders as Bacon and Shakespeare without the conscious awe that we were in the presence of high and commanding intelligences.

THOMAS COOPER.

PARALYSIS OF THE ORGAN OF LANGUAGE BY APOPLEXY.

EDITOR PHRENOLOGICAL JOURNAL:—At the request of Mr. E. W. Hiser I write you a statement of a case that came under my observation some years ago, and which tends to show that certain faculties of the mind are located in certain, definite portions of the brain.

One cold morning in 1871 I was called to attend upon Mr. E. B., who had just been found lying upon the floor of his room insensible and almost frozen. Mr. B. was a bachelor aged about forty-eight, very fleshy, and slept in his office apart from any dwelling. From the appearance of the room, the fact that his clothes had not been removed or his bed disturbed, the position in which he was lying upon the floor, etc., it was evident that he had fallen from his chair some eight or ten hours previous to discovery. After having been placed in bed, and circulation and sensibility somewhat restored, it was discovered that the right side of his body was completely paralyzed. The diagnosis was of course easy, and could not be mistaken, viz., hemiplegia (or paralysis of one side of the body) as a result of apoplexy. It is unnecessary to speak of the treatment given, as that has nothing to do with the purpose of this article. It is sufficient to state that a fatal termination ensued some three months subsequent to the apoplectic stroke.

A peculiar feature of this case was that Mr. B. was afflicted with "aphasia," or "the loss of power of forming words." The tongue and vocal organs were nearly or quite intact, and the voice perfect. The patient frequently uttered words distinctly (but, as I remember, only four or five different ones), but could not utter them coherently. If, for example, he wished to consent to a question asked of him, he would be as apt to say "no," or some other word, as to say "yes," though he could and did speak the word "yes" perfectly. Nor could he point out the letters to form a word when the letters of the alphabet were printed on a card-board and submitted to him, although he was an educated man. Yet Mr. B. understood what was said to him, perhaps not perfectly at all times, but nearly so. He would make known his wants by signs, and undoubtedly recognized the friends about him. His comprehension and power of uttering words were but little affected, but the mental faculty of *forming* words was gone.

Being aware that it is claimed that the faculty or power of forming words is demonstrated to be located in the "third convolution of the anterior lobe of the left hemisphere of the cerebrum," I was naturally curious to know if there were any injury to that portion of the brain. Evidently here was an absolute test case. Should a post-mortem reveal that that portion of the brain was in a perfectly normal condition, and no injury to it by pressure, blood clot, or otherwise, then the theory that the faculty of the mind referred to was located in that particular portion of the brain, must inevitably be false. On the other hand, should it be found that that portion of the brain had received injury sufficient to render it incapable of performing its natural functions, then the theory, if not absolutely proved, would be supported by evidence of such high character as to almost amount to proof.

At the post-mortem we found three or four blood clots in the brain substance, among which was one as exactly and accurately in the "third convolution of the anterior lobe of the left hemisphere of the cerebrum," as if it had been purposely placed there by human hands. The extravasation with the consequent pressure of the blood clot was sufficient to destroy the function of that particular portion of the brain.

T. N. Rafferty, M.D., then of this place, but now of Robinson, Ill., was present at the post-mortem, is familiar with, and can corroborate all the statements made in this article. J. S. THOMPSON, M.D.

Palestine, Ill.

SCARLET FEVER.

ELECTRICITY AS AN AID TO WATER.

IN a short article in the April Number of the PHRENOLOGICAL JOURNAL I endeavored to show the value of cold water in treating congestion of the brain, citing various instances in which I had used it with entire success. But I omitted to mention one important case, which was well worth recording, as it related to that most dangerous disease, scarlet fever, and the most baneful phase in which this appears, viz., drowsiness,—insensibility.

Only the other day one of the most skilful of Eclectic physicians said to me, referring to this disease:

"When the tendency is immediately to the brain, you may about as well give the case up at once."

I had forgotten that the scarlet fever had just entered the neighborhood and carried off its first victim in the person of a child just G.'s age, when the latter, then ten years old, came home from school, and dropping into an easy-chair, was soon in a semi-unconscious condition. I put her in a warm bath, and even ran the electric current from her head into the water; but as soon as the rubbing and dressing were through with, she fell over limp in the chair and could not be roused.

A friend called in just at this time, and suggested what might be the matter with the child. Laura A., she reminded me, had come home the week before in precisely G.'s state. She was put to bed and was never conscious for a moment afterward.

Now, we can imagine the holy horror with which any ordinary physician would regard the proposition to pour cold water on the head of a scarlet-fever patient! Yet, *without this*, the patient would die. Why, therefore, should we hesitate? We did not; but in the careful manner I previously described, poured perhaps a gallon over G. She "came to," in a measure, then immediately relapsed, so that we were obliged to repeat the process twice again within an hour before nature was enabled to take the proper course; then, though feverish, and presently sleepy, it was *natural* sleep, and her senses were clear enough when she was spoken to, and continued so during the progress of the fever.

I now made preparations for sickness. Means for securing an equable temperature and perfect ventilation were first considerations; next came nearness to hot and cold water, and there must be no stairs to climb if it could be helped.

To this end I had a bed brought downstairs, and into the parlor, which room contained a fire-place, and two windows at each end. The latter could be darkened, but still afford a good draft. Like many Italian parlors, ours was not so very far from the kitchen, which was a great convenience.

All necessary arrangements were completed in an hour, and with a good fire on the hearth, and a big, old-fashioned clothes-horse, covered with a bed-quilt, enclosing the warmth at one side, I was ready to give my patient a hot bath within this enclosure in a huge wash-tub. (My bath-room was cold and had no provision in it for hot water.) In this she squatted; around her exposed shoulders a towel was thrown, and the water ladled up and poured over her in a steady stream.

Meanwhile her night-dress was being warmed, also a thin blanket to take the chill off the bed, also the towels for wiping her. I had already given her an enema,—that, as we know, being the first thing to do where a child is attacked with sickness, for one *must* be assured of the state of the bowels.

Morning and evening this warm bath was repeated until the rash was well out; then,—perhaps it was needless caution,—I washed the patient carefully under the bed-clothes, wiping each part cleansed before proceeding further, not dampening the sheets in the least. Every morning, also, a tepid enema was given to soothe the bowels, if nothing more.

The rash came out very fully, and G. suffered less with her throat than did her younger sister.

"What doctor shall you call in?" asked my husband's partner, when he heard of the visitation.

"My wife," he replied promptly.

"What! in such a dangerous disease as *that?*" he insisted.

"Yes, I shall trust her, for I see they are dying under the doctor's hands, some of them."

He might have added, that even the unlearned midwife who nursed her children through it, merely dosing them with saffron tea, had better success than many of them did.

And now the other three children were, one after another, taken down, and later on myself, and then the stout young Irish girl, only two months from the ship. The same course was pursued in each case, except that Ellen and I were obliged to use the bath-room. Not a particle of medicine was given, my dear friend, Mrs. Farnham, having taught me that the first dose in scarlet fever damages the case, drawing the forces to the stomach, to eject it, which nature relied on for throwing the morbific matter to the surface of the skin.

It is notorious that the sufferer from scarlet fever, if he live, rarely escapes from it scot-free. He is left with inflamed eyes, delicate throat, dropsy, or perhaps is stone deaf. It is the drugs taken that are to be credited with most of these sequelæ, while all of them could have been avoided by a proper use of electricity.

It is simply incomprehensible that with the remedial qualities and the laws governing the use of electricity, so well and so long understood, people should be allowed to die of this disease for want of the assistance it never fails to give.

It is proven that the ordinary Faradic current travels from the positive to the negative poles, and carries off misplaced matter with it. By equalizing the circulation, it reduces acute inflammation, which, in scarlet fever, is drawn to the throat and fauces. With this wonderful agent at our command, there is no more danger in this much-dreaded fever than in the simple one which follows a common cold.

I had a small galvanic battery (in which sulphuric acid is used). Twice a day, sometimes oftener, I started a very mild current, wrapped a bit of wet cloth around the terminating needle of the wire conducting-string, and told my patient to put this as far back in the mouth as could be done without choking. The brass needle at the other end of this string was attached to the *positive* pole of the battery. With great caution, so as to avoid all possibility of a shock, I then let the patient take the negative electrode in, say, her right hand. This caused the current to flow directly through the right tonsil to the hand, carrying the inflammation away from that swollen part. The

negative was then changed to the left hand, carrying the current through the left tonsil, giving three minutes to each.

I then placed the negative (the positive being still in the mouth), covered by a wet sponge, at the anus. This ran the current down through the intestinal canal. The next time I would run it off to the feet (*i. e.*, place negative there). It is well to vary the treatment; so, on other occasions, I would place the positive electrode in a wet sponge over and below the ear, having the negative at any point lower down, over the abdomen or at the feet. This, for ten minutes, tended to carry the inflammation from the ears.

Electricity, baths, and good nursing brought us through the fever, and left us, one and all, in excellent condition. I had suffered most, for I was not atacked until I was worn out with apprehension and fatigue. Oh, the agony in my throat and head! In the night, when it seemed that I must certainly die of the pain, I called the nurse, and told her to go out and bring me a certain small tub, a quantity of cold water, and a small pitcher, and to pour the water on my head until I told her to stop.

She looked at me, but did not stir.

"I know what I am saying, nurse. Don't be afraid, but get it at once," I said.

She did so, and my agony was considerably relieved, though what remained seemed all I could bear.

Before I was taken down, the youngest child, then three and a half years old, on whom the rash had come out quickly, and whom I found it difficult to keep in bed, had escaped our observation, and run out of doors, round and round the strawberry patch, and this, just at that point in the afternoon when, with us, the temperature suddenly lowers considerably. After this escapade the little fellow had a high fever, and the glands of the neck became much swollen. Who does not know the result of relapse in a case of scarlet fever treated with drugs?

I held the positive electrode over, first on one side of the throat and then on the other, while his feet were in water with the negative for eight minutes. Then I wrung one of his thin, old drawer-night-gowns out of warm water, put it on, and wrapped him in warm blankets, and he slept, and woke up all right again. In ten days after the rash disappeared, all the children were taking their usual cold wash (not bath) in the morning (standing on a rack, as usual, to prevent losing too much heat at the feet).

One night, some time after my recovery, I woke up suddenly, as if a cold wind had swept across my face, and knew immediately that something was the matter.

"It must be Ellen!" I said; and putting my feet into my slippers I ran hastily up-stairs. She had sat up for the first time the day before, and stayed too long in the kitchen talking to the new girl. Now she could not utter an intelligible word, her tonsils were so swollen.

I fetched the battery, gave her the proper treatment, and when I had finished, she exclaimed:

"Oh, but that's a wonderful thing, ma'am!" which indeed was true. K.

WHEN TO MARRY.

THE golden gospel of Nature proclaims the proper period for marriage to be when the parties have fully completed their physical development, which is not commonly before twenty to twenty-three in the female, and twenty-three to twenty-six in the male. No certain time can be arbitrarily fixed according to age, as some individuals reach the full measure of natural growth earlier than others, being as much matured at eighteen as others are at twenty.

The laws of different countries fix definite periods for each sex, but they refer solely to the civil aspect of the question. Tacitus tells us that the ancient Germans did not allow marriage till the female attained the age of twenty-one, and the

male twenty-five. The ancient Greeks produced the finest race in respect to physical development that ever existed on earth. Their law-givers were imbued with the idea that late marriages insured more vigorous offspring. Some of them assigned the advanced age of thirty for females, and from thirty-five to forty for males, while others lessened the periods five years. Plato's rule was twenty for the female and thirty for the male. The result was a people that has been the boast of the world for both physical and intellectual pre-eminence.

Premature marriages are becoming deplorably common in our country. American youth are growing notoriously precocious, and boys and girls are railroaded along with fearful speed into fictitious maturity. As a consequence sound health among the married, beauty and vigor among the offspring, are yearly becoming more rare. Physiology protests. It declares that immature parents can not transmit to progeny the proper physical or mental power.

Every day's experience verifies the fact that the children of the early married are deficient both in body and brain, and generally die young. It has passed into a proverb that "the youngest children are the smartest." Every stock-breeder knows that cattle which are the product of parents one or two years old, are not as large and fine and kind as those of fully-matured parents. And is it not quite time that as much natural sense and science were brought into requisition in the propagation of children as cattle?

A powerful inference may be founded on the following facts: Pitt, Fox, and Burke were each the youngest child of their respective families. Benjamin West was the tenth child of his parents. Daniel Webster was the youngest by a second marriage, as was also Lord Bacon. Franklin was the fifteenth child of his father and the eighth of his mother; and further, he was the youngest child for five successive generations on the side of his mother. Dante was born of his father's second wife, Bella. Lorenzo de Medici, "the Magnificent," was a second son. Mirandola was a younger son. Luigo Pulci was the youngest of three brothers. Tasso was the third child. Oliver Goldsmith was the youngest of five children. Coleridge was the youngest of a clergyman's numerous family. Schiller was a younger child. Robert Fulton was the third child. Richelieu was the youngest of three sons. Lord Eldon was the eighth child by a second marriage. Mirabeau was the fifth child. Oliver Cromwell was a younger son. Queen Elizabeth was born when her father, Henry VIII., was forty-two years old. Nearly all the sovereigns of England distinguished for great abilities were younger children, or born of mature parents. Leibnitz was an only son of his father by a second wife. Lichtenberg, the great mathematician, was the eighteenth child. Stilling was the youngest of ten children. Madame Roland was a second child. William Wirt was the youngest of six children. Oberlin was the youngest of nine children. Richard Watson was born when his father was sixty years of age.

The whole history of greatness favors late marriages. Wherever an exception can be found, as in the case of Bonaparte, it is where the parents have been endowed with exceptional and extraordinary vigor. The instances cited above sufficiently show that robust and rational children can only come from parents organically matured and with constitutions consolidated. S. H. PRESTON.

SOME STATISTICS CONCERNING WOMEN.—Among the gleanings of interest from the census are those touching the comparative intelligence, health, criminality, and vocations of American women. We find that illiteracy prevails more among women, and is due probably to the foreign population, and that women contribute less to pauperism, the proportion being 31,000 to 36,000. The ratio of prison inmates stands 5,068 women to 54,190 males. Women are in excess among the insane, men in excess among the idiotic, blind, and deaf-mutes. The

proportion of women who engage in occupations outside of the household is smaller in the United States than in foreign countries, but in no country is the proportionate number engaged in superior industrial occupations equal to that in this country. Of the 2,647,000 women in occupations, 595,000 are engaged in agriculture, most of them colored women in the Southern States; 632,000 are in manufactories, of whom about one-half are in New York, Massachusetts, and Pennsylvania; 282,000 are milliners, etc.; 52,000 are tailors. Of the forty-four occupations recorded as "Personal Service," forty find women in them. The 525 female surgeons of 1870 have increased to 2,473; the seven lawyers to seventy-five; the sixty-five preachers to 165. The number of laundries has increased from 61,000 in 1870 to 122,000, and of the latter 108,000 are kept by women. Here is encouragement certainly for those of our sisters who would earn their own support, in that nearly all kinds of employment have been available to them.

WHAT IS INEBRIETY?

THE specialists in nervous diseases are, for the most part, inclined to regard inebriety as a disease of the nervous system. This was the view taken by that independent and progressive observer, Dr. George M. Beard. In the "Encyclopedia of Family Medicine," which he edited shortly before his lamented death, he presented his views at some length on the subject, and from which the following article is compiled:

"The public mind understands with ease that small-pox, typhoid fever, and ague are diseases, although the poisons that cause these diseases are not revealed to the senses, because the symptoms are seen as well as experienced by the sufferer. It is not necessary to depend on the statements of the patient; we know that he is sick, even if he insists that he is quite well. Inebriety, on the other hand, is purely subjective, and only exhibits itself by drinking, which is a habit common to thousands who are not inebriates, but are simply drunkards. One need not wonder at the slowness with which inebriety has taken its position as a disease, when we consider that besides being a subjective malady like neuralgia, neurasthenia, and hypochondriasis, it is also obscured by being confounded with the habit of drunkenness, which in its external appearance it so closely resembles. The superficial observer, forsooth, sees no difference between a drunkard and an inebriate, just as he sees no difference between a hypochondriac and a malingerer, between one who is really depressed in mind and one that only pretends or fancies that he is so.

"Approximate analogies to inebriety may be found in various other mental disorders. Take the passion of anger, which is a normal faculty and indicative of health rather than disease. It may, however, become a disease. Morbid anger is perhaps one of the very first symptoms of insanity; yet the differential diagnosis of morbid anger from healthy anger may be as hard as the differential diagnosis of eccentricity and insanity in general, or of drunkenness and inebriety. Over-indulgence in the healthy passion of anger may invite and prepare the way for the morbid passion of anger; the brain, if used too long in a certain function, becomes diseased in that special function; over-indulgence of anger leads to morbid anger; over-indulgence of the love of acquisition leads to morbid avarice; over-indulgence in drinking alcohol leads to opium or chloral mania; the chief difference between opium and chloral mania on the one hand, and morbid anger and avarice on the other, is that the former is created by indulgence in the use of a substance, as alcohol, opium, and chloral, that appeals to the senses; whereas anger and avarice are purely psychical, and like all the great forces of

nature, can only be studied through their efforts.

"The third difficulty in the way of recognizing inebriety as a disease, is the fact that it exists in persons who are otherwise apparently perfectly well. Inebriates are frequently so strong and even sturdy in appearance, so free sometimes from other functional diseases, that their friends are slow to believe their weakness in this particular.

"Here, also, recur to analogy. Many other nervous diseases besides inebriety are consistent with apparent and real health and strength in other respects. A man may suffer every week from sick headaches, may have attacks of hay-fever, may be tortured with neuralgia, may experience the deepest horrors of hypochondriasis, and even insanity in certain phases, and may all the while increase in flesh and be capable of great muscular, if not mental endurance; and many patients of this kind suffer more from want of sympathy than from this disease. Hysterical women, and men also,—and some of the worst cases of hysteria are in men,—grow fatter and stouter as their symptoms grow worse. I am persuaded that in some cases increased strength and real vigor in other directions is one of the symptoms of increasing nervous disease, as though the morbid activity was concentrated in one function, leaving other functions to operate healthfully and vigorously. One day there came into my office an inebriate who told me he had been walking over forty miles consecutively without anything to eat, and he was but little wearied.

"Besides these three general things there are three special things in the way of recognizing inebriety:

"1. It is not seen to any extent in ordinary hospitals or public institutions. Our hospitals are filled with drunkards, those who are victims of the vice of drinking. The class of people who frequent hospitals are not the class from which, as a rule, inebriates come, for inebriety is usually a disease of refinement, of a fine organization, of indoor life, of brain-workers, of civilization.

"2. Inebriety is mostly, although not entirely, an American disease. By this I mean that it is more common in the United States than in any European country, not even excepting England. The ancient world knew a great deal of drunkenness, but little of inebriety. The disease was first observed in modern times; and in this country, and at the present time, it is more common than in any other part of the world.

"The group of ten diseases to which inebriety belongs, and which includes cerebral irritation, spinal irritation, general neuralgia, sick headache, physical hysteria, hay-fever, pathophobia in its different varieties, neurasthenia, or nervous excitement, and nervous dyspepsia are least abundant in Germany, more abundant in France, decidedly more abundant in England, and still more abundant in the northern and eastern parts of the United States, where there are more of these diseases than in all the rest of the world. The frequency of these diseases in this country, and especially in this section of it (the northeastern), is the manifold result of extremes of heat and cold, degrees of the air, our constitutions, and mode of life.

"3. A third special difficulty of recognizing inebriety as a disease is that it can not be studied exclusively by the senses. To master functional nervous disorders, we must use deduction as well as induction, the reason even more than the eye and ear. We can not see or hear, or touch or smell the pathology of inebriety; nor with the aid of a microscope could we solve the problem of its nature. Only by reasoning from general principles already established, and by analogy, with the aid of observation of cases, can we reach the heart of this or of any kindred affection. The successful study of subjects of this nature requires the philosophic mind. Inebriety is a disease of the brain, and it takes brain to comprehend brain. There are many diseases and various states of the system that are best studied with the eye, but the eye alone, with all its aids, will teach but little of inebriety.

"Understanding, then, that *inebriety* is a *disease*, our next and most natural inquiry is, What is the precise seat of the disease? On what part of the nervous system does the injury done by alcohol fall so as to make one an inebriate? My own view is, that in inebriety the centre of the brain that presides over the appetite is the part especially diseased.

"Inebriety has four characteristics that are common to it with other neuroses, of which I have spoken—the *automatism* of its symptoms, *periodicity*, *transmissibility*, and *relapsibility*. The symptom of drinking to excess that belongs to inebriety is as much beyond the control of the sufferer oftentimes as neuralgia or sick headache; whatever responsibility attaches itself to the patient must be referred to a time prior to the outbreak of the disease, when exposure to the exciting causes might perhaps have been avoided, or when the early temptation might have been successfully resisted. Dr. Crothers, of Hartford, has given me the details of four cases of inebriety where the malady was excited by breathing the air of the seaside; whenever they came near the sea-coast, as at Long Branch or Coney Island, or when they crossed the ocean, the symptoms of headache, debility, depression, and morbid craving for alcohol came upon them with irresistible power. We may blame a man for exposing himself to danger of taking cold, but no one blames a man affected with bronchitis for coughing. A boy struggling in the middle of a deep river, borne down by the current, may be blamed for not having learned to swim when he had opportunity, or for going beyond his depth, or for venturing too near the edge of the bank against parental injunction; but surely he can not be blamed for his inability to keep his head at the surface, or for not resisting with success the force of the stream. Just here is the *responsibility* of inebriates, so far as they can be said to be responsible for the disease from which they suffer. There are some inebriates who directly inherit the tendency to their disease, just as they might inherit the tendency to insanity, or epilepsy, or neuralgia, or hay-fever, and who are no more and no less responsible in one case than in the other.

"One important result of researches in the physiology and pathology of the brain is to limit responsibility, or rather to decline its limitations, and to reduce the causes for blame and for praise of human actions to a scientific basis. A type and test of this relation of disease to responsibility is found in inebriety.

"The second characteristic of inebriety—*periodicity*—is common not only to nervous, but to various other forms of disease.

"All nature moves in rhythm; health as well as disease has its tides, its flowings and refluxes, its lulls before the storms. All the great forces are, or appear to be, results of wave motion. Under this universal law inebriety takes its own proper place. All inebriates are not periodical drinkers, but many of them are, and in those who seem to drink irregularly there may be, and probably is, an irregular rhythm in their cravings that is beyond ready analysis.

"In regard to the *transmissibility* of inebriety from parents to offspring through different branches and generations, and its correlation with insanity, epilepsy, and other nervous diseases, there is far less known, in spite of all that has been written on the subject, than is needed to be known. It is not the disease, it is the tendency to disease, that is inherited, and this tendency is not transmitted to all the children, but is liable to be transmitted to some of them, and one form of nervous disease, as inebriety in one or both parents, may, in some of the children or more remote descendants, reappear, as epilepsy, or insanity, or hypochondriasis. There is a general tendency to disease of the nervous system, developed and fostered under our modern civilization and institutions, which I call the nervous diathesis, and which subdivides itself into various phases of nervous disease—such as neuralgia, sick headache, spinal and cerebral irritation, hysteria, and hypochondriasis, as the hand branches out into the thumb and fingers."

Çi, Çi, Çi.

THE RHYME OF THE CIGARETTE.

What is that reeking flavor
That is neither scent nor savor?
It floats through the air,
Steals everywhere,
But it meets with no disfavor.
—Çi-çi-çi—'tis the fu-fu-fume, of the
çi-çi-çi-cigarette.

A beastly fume it seemeth,
That the youth himself esteemeth
As, sauntering by,
With his head on high,
In a cloud enwrapt he dreameth!
—Çi-çi-çi,—'tis the cha-cha-charm of
the çi-çi-çi-cigarette.

O, why doth the youngster wear
Such a visionary air?
He is all engrossed,
Is completely lost,
Who was once "broke up" with care!
—Çi-çi-çi,—in the qua-qua-qualm of
the çi-çi-çi-cigarette!

H. CLARK.

CATARRH "REMEDIES."

So many inquiries are coming in from day to day about catarrhal affections that we think it fitting to supply the reader with such information as we consider trustworthy concerning methods of treatment, and especially to warn him against the unnecessary and injurious. From Dr. Rumbold's article published in the *Medical Review*, the following extracts are taken. Dr. R. states at much length his observations on the current catarrh nostrums, and concludes his paper with the following:

"Most of the inhalers are apparatuses for the generation of nascent muriate of ammonia, which is seen to issue from the nostrils in quite a large volume. The vapor is made by passing air through muriatic acid and aqua-ammonia; the combination of these two agents forms a dense white vapor, which in itself is not very injurious, and if used alone would not do much harm; but the discoverers of a remedy that has long ago been laid aside always mix with the water through which the vapor passes carbolic acid and other injurious agents that produce an immediate alleviating effect, but which, as I have said, are harmful in their results.

"I have collected every catarrh, asthma, and hay-fever 'Sure Cure' that is in the market, numbering in all 58, and have carefully examined them. Eighteen of these 'Sure Cures' are bald-faced frauds. One ounce of quassia chips, a pound of table salt, and forty gallons of water will make one barrel of 'sure cure' that sells for $1 a bottle, holding six ounces; the same quantity of water, a pound of muriate of ammonia, a pound of ground cubebs, and a little common potash will make another 'cure' that sells for 50 cents a bottle, holding four ounces. These two are the best of the eighteen frauds. I have no doubt that some of the proprietors think that they have 'just the thing,' for the simple reason that most of the agents used are now recommended by those of the profession whose practice is almost exclusively confined to the treatment of this disease, and their methods of application also agree with the methods now used by these physicians.

"I stated at the beginning of this paper that Americans especially were greatly injured by these advertised cures. I am satisfied, from conversation with physicians in all the large cities of Europe, that they do not see this third class, that is, those who resort to newspaper remedies, for the simple reason that very few of the European catarrhal sufferers resort to advertised remedies, nor do their newspapers advertise catarrh 'cures' to a great extent. It is because this class, who are very numerous, complain so much and so loudly of their symptoms, that makes it appear as though nasal catarrh was far more frequent now than formerly

and far more severe and frequently seen in this country than in Europe. Both conclusions are erroneous.

"Those of us who have arrived at our fortieth or fiftieth year of age will remember that very many of our schoolmates had 'dirty noses,' and that sniffing up the nasal secretions was a most common practice by both the boys and girls of our young days. None but the most ignorant need be informed that this was due to a profuse catarrh of a semi-chronic form. I do not think that any one will say that they observe to-day more children with profuse secretions running from their nostrils than they saw in their youth. My observations lead me to say that there were as many children affected with this kind of nasal catarrh 20, 30, 40, and 50 years ago as at present. Our attention was not called to it at that time, consequently we did not see it. That there are as many persons suffering from nasal catarrh in Europe as in America I know from observation; but because of the proneness of Americans to patronize advertisers, and because of their numerous loud complaints after being injured by these advertised catarrhal cures, this disease appears, as I have said, more frequent nowadays than formerly, and more frequent in this country than in Europe."

CARE OF THE EARS.—"Picking the ears" is a most mischievous practice; in attempting to do this with hard substances an unlucky motion has many a time pierced the drum and made it as useless as a bursted rubber life-preserver; nothing sharper or harder than the end of the little finger, with the nail pared, ought ever to be introduced into the ear, unless by a physician. Persons are often seen endeavoring to remove the "wax" of the ear with the head of a pin; this ought never to be done: first, because it not only endangers the rupture of the ear by being pushed too far in, but if not so far, it may grate against the drum, excite inflammation, produce an ulcer which may finally eat all the parts away; second, hard substances have often slipped in, and caused the necessity of painful, dangerous, and expensive operations; third, the wax is manufactured by nature to guard the entrance from dust, insects, and unmodified cold air, and when it has subserved its purpose it becomes dry, scaly, and light, and in this condition is easily pushed outside by new formations of wax within.

STEAM-COOKED FOODS INNUTRITIOUS.

THE popularity of steam-cooked or partly cooked cereal foods is due to their convenience to both the grocer and the housekeeper. They will "keep" on the shelves of the store or the pantry, and need but little preparation for the table. It does not seem to be understood that the partly-cooked hominy, oatmeal, or wheat grits have actually suffered by the steaming process, and lost in nutritive quality, because their albumen has been coagulated and rendered difficult of digestion. This idea of steam-cooking may have been taken from the practice so common for many years past among farmers, to cook food for their stock; but now it is dawning upon their intelligence that to feed cattle with warm cooked messes is far from beneficial, and that in spite of the praise given it in agricultural papers. Prof. Sanburn warns farmers against it, and in proof of this statement he quotes from certain "full and satisfactory tests" at the Maine Agricultural College, continued during nine years with results like these:

"In 1870, value of cooked meal to raw meal as 95.5 is to 100; in 1871, as 74.8 is to 100; in 1872, as 82 is to 100; in 1873, as 91.6 is to 100; in 1874, as 98.8 is to 100; in 1875, as 73.3 is to 100; in 1876, as 88.8 is to 100; in 1877, as 64.2 is to 100; in 1878, as 78.5 is to 100; average for nine years as 83.3 is to 100. As these trials

continued for the season and for nine of them, and not for a week, much weight must be attached to the results."

Prof. Sanburn, by combining practice with science, has won his way to the deserved respect of intelligent farmers, and appeals further, in his letter on the subject in *The Rural World*, to results of various methods and degrees of cooking, which he concludes does not pay even in the case of concentrated food for hogs:

"Kuhn found that pouring boiling water on bran and allowing it to stand twenty-four hours positively retarded digestion. . . . . Kreusler and others found that souring and fermenting caused, as we might expect, a loss of raw material, while boiling, steaming, and scalding diminished the digestibility by the large amount of water. Steaming of hay diminished the digestibility. . . . . Homberger found that steaming hay for oxen resulted in a decreased digestibility of the nitrogenous matter of foods, and that only 68 per cent. of the digestible albuminous matter was assimilated. . . . . Other tests by the German experimenters have given similar results, and justify those thousands who have tried cooking food in abandoning the process. However, they are not justified in starting out in praise of the process and then winding up in silence. . . . . In visiting the herd of one of the famous breeders of this continent, I found a very elaborate and costly system of cooking food listless. Said the proprietor: 'I was kept trotting for the veterinarian while feeding cooked food and abortion increased.'"

We may take these conclusions as applicable to the farinaceous materials used by the higher animal, man, and condemnatory of the cooked food, of commerce.

D.

HOME RELIEF IN VEGETARIANISM.

A CORRESPONDENT of one of our "family" publications writes in a vein of zeal concerning the benefit to his housekeeping and "women folk" arising from a disuse of butchers' stuff. To quote a part of his letter:

"Heretofore the 'good angel' of our house has spent many years in catering to the appetites of a herd of careless, thoughtless feeders, filling tables full of rich, highly-seasoned foods, pastries, puddings, fat meats and lean, fish, fowl, and every good thing else to be had in the country, in the usual approved styles. We have paused to draw a contrast.

"Now we neither kill, cook, nor eat flesh of any kind. We do not make or eat rich pastries, puddings, or sauces. We need and use but few luxuries. Pie-crust without shortening, cookies ditto. We do not taste of food with lard in it; and if we must shorten anything we use butter, butter-milk, cream or milk, as being comparatively harmless. Our meals are therefore very simple as well as economical. Eating but twice a day our meals, breakfast and dinner, do not differ very widely. Our staple article is good wheat-meal coarsely ground, and cooked in a variety of ways, but chiefly gems and pudding or mush. We use garden vegetables and all kinds of fruits, and the world is full of delicious fruits. We use but little fine flour, a little buckwheat, oat-meal, cracked wheat, and starch. We strive to eat slowly, taking small mouthfuls at a time. And really, we have just our choice of all the food materials of the world. We are not ambitious to get what is better, for we can not. If we sit at the tables of our friends and neighbors, inconsistent with our usual course, we partake as little as we can. It is better to go hungry than to eat impure food.

"No one can fully realize the greatness of the burden thus taken off the housekeeper. What a multitude of utensils are dispensed with—stew-pans, kettles and frying-pans, broilers and tormentors, meat-tubs, salt pickles, brines, and choppers, all an offensive and horrid group of things banished forever. We have

now lived nearly four years in this pure and simple way, and we could not be induced to go back to our old habit. Pure food makes pure blood, pure bodies, and pure thoughts. Says the grand old philosopher Porphirius, 'The eating of flesh fills us with a multitude of evil diseases and multitudes of evil desires,' all of which it is better to avoid.

"Our food is substantial and we do not want for strength. We can labor, we can rest. We have no fear of epidemic or contagious diseases. Mankind with pure food and cleanly habits will avoid cancer, cholera, catarrh, consumption, diphtheria, and a multitude of afflictions. If we are true to ourselves in these matters we can give all the doctors a good-bye shake.

"That which is best to give us health and strength is best to cure our ailments. Thus pure food cures what medicine can not reach. It is fearful to contemplate the wretchedness caused by impure food and gluttony. Poisonous drinks alone destroy millions."

RELIEF FOR TOOTHACHE.—For ordinary nervous toothache, which is caused by the nervous system being out of order or by excessive fatigue, a hot bath will so soothe the nerves that sleep will naturally follow, and, upon getting up, the patient will feel very much refreshed and the toothache gone. For what is known as "jumping" toothache, hot, dry flannel applied to the face and neck is very effective. For common toothache, which is caused by indigestion, or by strong, sweet acid or anything very hot or cold in a decayed tooth, a little piece of cotton, steeped in strong camphor or oil of cloves, is a good remedy. Care in the diet, especially when the bowels are disordered, is helpful to mitigate toothache. If the tooth is much decayed, nothing is better than its extraction.

PREVENTION OF SMALL-POX.

THE Montreal excitement over the small-pox outbreak should have a good effect in the States bordering on Canada, so far as precautionary measures are concerned. Experience has proven that vaccination does not prevent the disease, but that hygienic measures furnish the best protection. We take the following hints from the Philadelphia *Record*, thinking that they may be serviceable to our readers, both physicians and laymen:

"Many deaths from small-pox may be prevented by knowing how to treat the disease. A gentleman in this city found that a child of his, one with two good vaccination marks, had small-pox. The child was immediately placed in an upper room, which had been stripped of everything but the bed and bedstead, a chair, and small table. The father took charge of the child, attended to everything; no one else was allowed to come on that floor; food was left in the second story hall, which the attendant, after washing his hands with carbolic soap, transferred to other dishes, which were washed and disinfected in the sick-room. Nothing touched by the patient was allowed to go down-stairs; all the slop was thoroughly disinfected with chloride of lime, carbolic acid, and sulphate of iron; soiled clothing was covered with chloride of lime and immediately burned in the furnace. When the patient was well the bedding was sent to the small-pox hospital, the room thoroughly scrubbed, and the walls and floor wiped over with a solution of carbolic acid in water, just so weak as not to change the color of the wall paper. Then a good strong earthen vessel was placed in the room and about half a pound of chloride of lime put into it. On this was poured half a pound of muriatic acid, and the door immediately closed. The chlorine gas thus generated permeated every crevice in the room. This was done three times a day for several days, the adjoining rooms being also filled with the gas. The result was,

that with a large family, small-pox all around, and many fatal cases in the neighborhood, no other member of the family had it, and that room is just as free from small-pox taint as if the disease had never been there."

THE COMBINATION DRESS.

A CORRESPONDENT of the Boston *Herald* is of opinion that the highly respected article of woman's apparel, called chemise, is in danger of supersession, on account of the acceptance which is generally accorded the "combination dress," by those who have given it a fair trial. She says:

"Every one is supposed to have a chemise 'to her back,' but that this supposition is not wholly true was proved to me some time ago. When at the seaside, two girls, mutual friends of mine, and whom I introduced to each other, went one warm day with me to bathe.

"One said to the other: 'I am afraid you will be awfully shocked when you see me undress.' 'Shocked! Why?' 'Well, I hardly like to tell you; but the fact is I have so little on.' 'I don't wear much,' said the other. 'All I have is combinations, stays and one petticoat under my dress.' Curiously enough, both those girls were dressed in precisely the same way, in woolen combinations, stays (well shaped and not tight), one petticoat, and a dress, which, from its elegance, gave no suspicion of the state of affairs underneath. As I had an opportunity of observing, these young ladies were dressed in perfectly sanitary style, although none but myself had any idea of the fact; and, in spite of it, they passed for two of the best-dressed girls at the fashionable watering-place where we were staying.

"I have since had several opportunities of observation, and I find that quite a number of the best-dressed women of my acquaintance have renounced the use of the chemise in favor of woven combinations. The majority, however, I believe, are not induced to do so by sanitary considerations, but simply because the chemise is a bulky article and makes them look stouter than is natural to them, whereas the combinations, being made of a stretchy material, fit somewhat closely and show the symmetry of the figure. This is, to my mind, a very good reason why the chemise should be given up; but, from a health point of view, we can find a still better one. Chemises are generally made of linen or cotton, both of which materials, as I have already said, are unsuitable for clothing, because they are good conductors of heat, bad absorbers of moisture, and bad ventilators."

HOW A CIGAR MAY COMMUNICATE DISEASE.—A man of information was smoking and chatting with a physician on a Hudson River ferryboat when a stranger stepped up and asked for a light. "Let me give you a match," replied the man of letters, adding, after his petitioner had withdrawn, "I don't know how you feel about it, doctor, but for my part I very much dislike to put the end of my cigar back into my mouth after it has been fingered by Tom, Dick, or Harry. I always carry matches with me, and make it a point to offer one of them instead." "And quite right you are," said the doctor. "I believe that some of the worst diseases can be conveyed by one man to another through the contact of his fingers with a borrowed cigar. I personally know of a case where varioloid was transmitted by means of a two-dollar bill, and I firmly believe that varioloid and things much worse can pass from a man's fingers into a cigar, and thence into the smoker of it."

It is said that in California cigars are manufactured by leprous Chinamen; the idea is startling!

LOCALIZATION OF THE FUNCTIONS OF THE BRAIN.—A REVIEW.—No. 3.

THE experimentalists seek to ascertain the functions of the brain by isolating portions which may be organs, and by stimulations or lesions to obtain their functions. Now all they desire to obtain can be obtained by Phrenology in another way. I have already stated that there are two aspects of proof in the observation method of Phrenology, the positive and negative. When an organ is excessively developed it is positive, and when excessively small it is negative; that is, when large the person exhibits the quality in a high degree, and when small in a low degree.

Now in these cases, when an organ is excessively small, we have a mutilation, and when large we have isolation and stimulation, and that too in as great a degree as the experimentalists can ever hope to reach; but there is this advantage, however, the animal is not under the influence of anæsthesia, and we have human beings to deal with in the full possession of their senses, and all injury, irritation, or conduction of electricity to adjoining parts is avoided. The organs being small, serve as well as if they were removed, but it is a natural removal, and the experiments can be made not on a few mutilated animals, but on multitudes of human beings to the full satisfaction of all. The other methods of injuries to the brain, and comparative anatomy, also give the advantages of natural mutilation, but it is harder to establish the functions of the brain by these methods, and it is necessary to know them beforehand, and takes a greater period of time. The experimentalists are beginning to recognize the importance of injuries to the brain in discovering the functions, and their works on aphasia, or loss of speech, and the color sense are fast bringing them into the right track. They have already got so far that they locate the power of speech in a convolution in the same region that the phrenologists locate Language, sometimes called the convolution of Broca, from the investigations of Broca into loss of speech. So with the investigations into color-blindness, they will result in placing an organ for color in that part of the frontal lobes where Gall placed it. Since the investigations of Broca they have been seeking for examples of the loss of speech by injuries to the brain, and if they would only look through the various works on Phrenology they would get an abundant supply.

In order that the functions should be discovered by Gall's method, it is necessary to observe exceptional cases; thus one or more organs need to be excessively large, while the others need to be moderate, thus making them distinguishable from each other. On this account some have called Gall's method Craniology or "Bumpology," and have maintained that what was discovered by exceptional cases could not apply to ordinary cases. The utter uselessness of such an argument is very apparent; for the experimental method is open to the same objection, and we might just as well deny the truths of botany or any other science, for they are all founded on exceptional cases. A great many of the facts of botany have been obtained not from the ordinary run of plants, but from monstrosities. Every plant is composed of stem, root, leaf, and axis, and every part of the plant can be referred to leaf and stem. How could we have ever known these facts if botanists had not observed and drawn their conclusions from monstrosities or exceptional cases? Although Gall made his discoveries by means of exceptional cases, yet these cases were compared with ordinary cases, and the location being discovered it is just as easy to tell the development of the brain of such men as have their brain functions all equally developed.

It should be remembered that in building up the science of mind, and the art of reading character by the phrenological method, Gall and Spurzheim speak of protuberances only as necessary in discovering the seat of the organs, but when

the seat is known they are no longer necessary. "They require that every one who wishes to form an opinion of the reality of Phrenology must make himself acquainted with (1) The situation of the organs; (2) With the true meaning of each fundamental faculty of the mind as adopted in Phrenology; (3) With the different temperaments, giving more or less energy to the functions of the organs; (4) With the relative development of the four regions of the head, occipital, lateral, frontal, and sincipital; (5) With the proportionate size of the three great divisions of the inferior feelings, superior sentiments, and intellectual faculties; (6) With the relative development of the special organs of each individual." In considering all these things it is necessary to remember that "size, other things being equal, is the measure of power." The other things are texture or quality, activity, physical power, disease, etc. The statement made by some that "in Phrenology size is everything," is thus seen to be without a shadow of foundation.

Some say that "Phrenology was established by Gall and Spurzheim when very little was known about the brain, and when its physiology was entirely undiscovered, hence it could not have been established on just grounds. It is true that great ignorance existed concerning the anatomy of the brain, but that ignorance was not with Gall and Spurzheim. They were far ahead of the anatomists and physiologists of their day, and their views of anatomy are the views of the anatomists of to-day. To Gall and Spurzheim is due the improved method of dissecting the brain which is now used, and they established the fact that the brain is the organ of the mind; that it is composed of white and gray matter, that the white matter is composed of fibres, and that the gray matter is cellular, or has cells in it. The ramification of the nerves in the brain was also made known by them, also the different parts of the brain and their functions. They even maintained that there must be sensory and motor nerves, that is, afferent and efferent. This latter fact was afterward fully proved by Sir Charles Bell. It would take too much time to enumerate the discoveries of Gall and Spurzheim in brain anatomy alone, but they can be seen in their own works and in the report of Baron Cuvier to the Museum of Anatomy in Paris. It is sufficient to say, however, that although their discoveries were opposed by the anatomists of their own day, yet they have each one been proved by the researches of anatomists since their time. At present it may be said that Gall and Spurzheim and the anatomists of this decade are one and the same in anatomy, and Spurzheim's "Anatomy of the Brain" might just as well be used in medical schools as the best works on the subject, as it is better than the majority of those that are used. It makes one smile now when he reads of the first brain Spurzheim dissected in Edinburgh before some of the anatomists of his time, among whom was the famous Dr. John Gordon. The method was entirely new to them, as they had simply cut the brain in slices from above downwards, thus spoiling the parts of the brain, and making it impossible to notice the different parts. Spurzheim commenced from below upward, tracing the nerves as he went along, and carefully noticing each part of the brain, its position and connection with other parts. As he dissected the brain some of the anatomists thought they could see the fibres as he pointed them out, while others did not know whether they saw them or not. These are the anatomists whose views we are expected to accept in preference to those of such men as Gall and Spurzheim. There have been objections brought against Phrenology from physiologists at different times, and perhaps it would be well to examine some of the most important. I can only allude to the discussion between Sir William Hamilton and Dr. Spurzheim and George Combe, as it would take too much time, and is of very little importance now. Hamilton is thought by some to have wiped out Phrenology, but if they will only read

the discussion they will see that he had decidedly the worst of it. The very evidence which he brought forward to disprove Phrenology was declared by the umpires as unfit to be received as testimony, and the famous fourteen propositions which he afterward issued have been proven to be false, while the counter phrenological propositions, freed from Hamilton's misstatements, have been proven to be correct. It would have been better for Hamilton if his propositions had been burned; for we would then doubt that a man of his caliber ever held such opinions as that in old age the walls of the skull do not thicken, and that after the seventh year the brain does not grow; that the increase of the head which does take place is due to the greater development of the cranial bones, muscles, integuments, and hair; that the cerebellum reaches its full proportion many years before puberty and probably as early as three years, and that it is larger in women than men.

The utter fallacy of Hamilton's propositions can be seen by looking into any of the later anatomists, such as Dr. John Gray, Dr. Dalton, Prof. Ecker, and Prof. Turner, of Scotland. Hamilton's objections have done one good thing, they have shown the ignorance of the anatomists of his day, and how much Gall and Spurzheim were ahead of their time. I have the greatest respect for Hamilton and his philosophical writings, but whenever I think of his phrenological controversy, I seem to see him running through the streets of Edinburgh with fourteen malformed skulls seeking for a Spurzheimite on whom to hurl his metaphysical venom and demolish the phrenological system into thin air. With all his energy he did not dare to meet and discuss with one of them before the public, but his discussion was carried on through the penny post.

It is curious to see how some physiologists, opposed to Phrenology, have been compelled to change their views as one or another phrenological proposition has been fully established by recent investigation. Prof. Wilder, of Cornell, at one time opposed Phrenology, and maintained that the brain was not the organ of the mind; but in 1873 he delivered a lecture on Brain and Mind in New York, in which he gathered together all the old objections to Phrenology that had been refuted time and again, and hurled them at his audience; but in this lecture he showed a change of views, for he believed that the brain was the organ of the mind. He maintained stoutly, however, that it was not a congeries of organs. After the results of Ferrier's experiments were made known, he again changed his views, and said that the time for reaction had come; that the brain was certainly a congeries of organs, each having its special function. This is an example of what has been the case with the majority of those physiologists who have been opposed to Phrenology. Their opposition usually shows great ignorance of what Phrenology teaches, and sometimes misrepresentations. Here I can not help alluding to Wilder's crowbar argument, as I have seen it in nearly every work on physiology I have examined. It is called the famous Cardiff Giant Crowbar Story of America. A man while blasting rocks, by the premature explosion of the mine, had a crowbar (it was a miner's tamping-iron) forced through his head. The bar entered the lower part of the skull and passed out of the head near the median line. He was rendered insensible, but was not killed. By proper medical skill the wound was healed, and he lived for twelve years afterward, but finally died of spasms. Now it has been said that his powers were unimpaired by the wound. Wilder uses this as an argument against Phrenology, saying "that if the science were true his powers would have been impaired."

Now, according to Phrenology, the organs are double—that is, there is one in each hemisphere of the brain, located in a similar place, and having the same function; hence it is possible that an organ in one hemisphere might be injured and the duplicate in the other

hemisphere still carry on the function to such an extent that the impairment of the faculty by the injury to the other part could not be noticed. Now, as the iron bar entered the head in one place and came out at a different place, no organ could have been destroyed in both hemispheres, and so he might manifest the same powers as before the accident. It seems to me that if Prof. Wilder had known anything about Phrenology he would never have used this case as an argument against it; for if it proves anything on his side, it proves that the brain is *not* the organ of the mind, and Wilder, at the time he advanced this argument, accepted the proposition that the brain is the organ of the mind. Again, the bar was smooth, tapering, and pointed, so that it might pass through the brain without tearing or lacerating the brain substance, but simply part it as is done by the electrodes in the galvanic experiments, and hence the man's faculties might be unimpaired after recovery. But Wilder also shows ignorance of the case in saying that his faculties were not impaired by the wound; for they were very much impaired. His physician and friends noticed that while he was a man of intellectual power and steady habits before the accident, after it he became stupid, irritable, forgetful, careless, and not to be depended upon. He had to give up his position of overseer, which he had filled well before the accident, because he was unable to attend to it after the injury; besides, it is generally concluded that his death in spasms at the last was really the result of a derangement of his brain from the effects of the accident. An account of the injury of his powers by this accident can be seen in the *Popular Science Monthly* for March, 1881, in an article on "Cerebral Experiments for Brain Functions."

Mr. Lewes in his "History of Philosophy" reviews Gall's system at considerable length, and makes objections to it. His objections are mainly a mass of misstatements or deliberate falsehoods; but as he has been sufficiently answered by Morgan in his book "Skull and Brain," and his assertions shown to be false, I will not deal with them here. There is one statement of his, however, that Morgan has not replied to, which I have often heard, and which is so common at Harvard University, that it is necessary to examine. Lewes says, "Phrenology would not be so much behind the times if its advocates had followed in the footsteps of Gall and kept up with the new discoveries in anatomy." Now this statement is not correct; for as I have already said there is hardly any difference between the anatomy of the brain as given by Gall and Spurzheim and that of the anatomists of to-day. The phrenologists have not only kept up with the advance in physiology, but some of them have been the most prominent physiologists of their day. Dr. Vimont and Dr. Broussais were the greatest anatomists in Paris, yet they were phrenologists, and wrote excellent works on Phrenology. In Germany there was Dr. Hoppe, of Berlin, and many others. In Britain the anatomists who embraced Phrenology have been so numerous that it is impracticable to mention them, and the same may be said of America. We will mention a few, however, as an example: The Combe brothers, of Edinburgh; Prof. John Elliotson, M.D., F.R.S.; Dr. Robert Hunter, Prof. of Anatomy; Prof. John Bell, M.D.; Dr. Samuel George Morton, Prof. of Anatomy; Dr. W. A. H. Brown, Psychological Consultant of Crighton Royal Institute and Commissioner of Lunacy, and Dr. J. P. Brown; all prominent anatomists, writers, and teachers of Phrenology. In America, Prof. Dunglison, M.D., author of "Materia Medica" and "Medical Dictionary"; Dr. Charles Caldwell; J. V. C. Smith, Prof. of Anatomy and editor of the Boston *Medical and Surgical Journal;* and Nathan Allen, M.D. These are only a few of the distinguished anatomists of Phrenology, and yet Lewes tells us they are not up in anatomy. In fact, the great Prof. Turner has a leaning that way, and it would not be surprising to see him a phrenologist before long.

Bastian, in his "Brain as an Organ of the Mind," has a few objections against Phrenology, if they can be called objections; for it seems to me that he has not read any phrenological work, or else he intended to make a deliberate misstatement. He says, "Phrenology was considered by Gall and Spurzheim to be perfect and complete." Gall and Spurzheim never made any such statement, but they were very particular to say they did not regard the science as complete, and thought that it would take centuries to perfect it. The statement of every phrenologist since that time is that they do not consider the system as perfect, and expect to see it improved slowly. Bastian also says, "Gall and Spurzheim considered the gray matter to have no function, and disregarded it in localizing the functions, regarding it as a mere matrix." Was there ever such a barefaced misstatement! I need only refer Bastian to Spurzheim's "Anatomy of the Brain," where he will see the organs located in the gray matter and on the convolutions of the brain. The very means by which Gall discovered the functions made it necessary that he should consider the gray matter as part of the functions, and he undoubtedly did so. The reason why Bastian made this mistake was probably from the fact that Gall and Spurzheim, in describing the course of the white or nervous fibres through the gray matter, say that the gray matter is like a matrix to the white in position, but by so doing they did not mean that it was nothing but matrix. Of course there is more known now about the composition of the gray matter than in the time of Gall and Spurzheim, but it does not militate against Phrenology.

In recent times a greater knowledge of the composition of the gray matter has been obtained by the aid of high-power microscopes, so that it is now known to be mainly composed of cells of various shapes. Bastian says, "The other material composing the gray matter is merely matrix"; but I am afraid that by this statement he makes an error similar to the one he accused Gall and Spurzheim of making. The cells are thought to be the main elements in the operations of thought. The opinion seems to be gaining ground that these cells are the extremities of the white or nervous fibres, and thus they may be said to be a part of the fibres; but there is a difference of opinion among microscopists on this point, as some hold that the cells are not the extremities of the fibres. This point, then, is still undecided, but the cell theory is accepted, and is called by some a localization of the functions. Some may think this conflicts with Phrenology, but instead of doing so it confirms it. The cell theory is a very reasonable one, and is a good means of explaining how the brain acts; for when a thought occurs a certain tract of cells are excited to produce the thought, and afterward, if one or more of the cells of that tract are excited, the whole tract would tend to be excited, and thus the thought would be remembered or come into the mind again. To make this theory conflict with Phrenology, it would be necessary to prove that cells having entirely different functions are close together, and those having the same functions are in different parts of the brain; but when the brain is stimulated by galvanism it is found that this is not the case. The cells are found to be in groups, each cell of the same group having the same function, except that the centre cells seem to have the function in the strongest degree, while the others of the group, although fainter in their responses, seem to aid those in the centre. Ferrier found this to be the case in his experiments; and this is as far as Goltz and Munk got toward localization. This theory is sometimes called the cell theory of localization of brain functions, because the functions of the different groups are different. This coincides with Phrenology; for the groups themselves are the organs, although the experimenters have not been able to localize them sufficiently, and the responses have been only movements. The cells are the nervous substances of the organs which perform the

work of thought, and the theory may yet be of great use in making perfect the phrenological system. Dr. Brown-Sequard, M. Foster, and other eminent anatomists, are the supporters of the cell theory.

I will now conclude by saying a few words on the organ of the generative instinct. The phrenologists locate it in the cerebellum, but some of the physiologists have been opposed to this. Some of them seem to take delight in ridiculing this location of the sexual instinct, and all they can see the cerebellum to be good for is to preside over equilibrium, and serve as a centre for general muscular co-ordination. The experiments on animals which they advance to prove this, present the most contradictory and confusing phenomena. Dr. Flint says: "There is still the widest difference of opinion among physiologists in regard to the functions of the cerebellum." This statement of Flint's is very true; for if we examine the works of Bastian, Foster, Ferrier, Flourens, Eckhard, Schiff, Dalton, Carpenter, and others, the differences and inconsistencies are so great that there is nothing for us but to fall back on Gall and the phrenologists, who seem to have clearly established the location of Amativeness in the cerebellum. There is a magnificent work on the Functions of the Cerebellum by Drs. Gall, Vimont, and Broussais, translated from the French by George Combe, with additional proofs by Combe and others, that Amativeness is in the cerebellum. The proofs are simply numberless, and any one who reads this book will be convinced of the truth of the location. The location of the sexual impulse in the cerebellum does not deny that it has to do with muscular co-ordination, etc.; for these can exist in it also. The cerebellum is large enough for both. There have been physiologists who thought both could be located there, and they are not phrenologists either. Among these is M. Serres, who was contemporary with Combe. He was of the opinion that the median lobe presided over the generative instinct, and the lateral lobes over muscular co-ordination. Dr. Carpenter, although opposed to Phrenology, says that certain facts which he has seen lead him to think there may be a connection between these functions. (See the late edition of his "Human Physiology," page 684.) Dr. Dalton thinks a part of the interior medial region of the cerebellum may be connected with the sexual impulse. (See his article on pathology and the data of vivisection.) In his experiments on animals, Dr. Fairfield paid more attention to cutting out the gray matter and cutting out particular nerves than did either Goltz or Ferrier, and he came to the conclusion that the innervation of the generative organs proceeds from the cerebellum by way of the posterior cord, the vital by the gray portion of the spinal marrow, and the consciously voluntary by way of the anterior. This was proved by cutting out the gray matter of the corpora fimbriata of the medulla oblongata. Ferrier might just as well have placed equilibrium in the skin; for when he took off the skin the animal fell like a log. It is well known that in sickness and injuries the sexual instinct is not very active, but is rather kept under; hence stimulation of an animal's cerebellum, when mutilated or partly insensible, would not excite the function, but stimulation of the connecting cords might, as the electricity might take the place of the brain.

Injuries to the cerebellum are generally, if not always, attended with disorder of the generative instinct, and a great mass of such cases have been collected by the phrenologists. They are sufficient to convince me of the correctness of this doctrine; besides, in my own experience I have noticed, as every one else has who has paid any attention to the subject, that men and women with full, round necks, prominent chins, and with the brain wide and deep in the base, at the back part of the head, have a greater fondness for the opposite sex than those with narrow, little heads, long, thin necks, and small chins. I have noticed that

those who were old maids or old bachelors from a dislike or fear of the opposite sex, were sadly wanting in the signs of a large cerebellum, and in their actions in the presence of the opposite sex showed a timidity and a lack of feeling, or warmth and sympathy. If those anatomists who oppose Gall's conclusions would only set themselves to work on Gall's methods of observation, they would soon come to the same conclusions as he did. They ought, at least, to collect a quantity of facts by Gall's method contradictory to his conclusions, which could easily be done if the phrenologists are wrong; but this they do not, for all who have tried it have been converted to Phrenology.

WILLIAM HYDE.

Cambridge, Mass.

(CONCLUSION OF "SELF-ESTEEM AND APPROBATIVENESS," p. 310.)

If kind measures fail to bring repentance, you must punish. But the object of that punishment must be to bring repentance. Otherwise it will prove a failure.

One of the worst cases in every school is the pupil who is over-anxious to make a display, to show off at every occasion, where every look and movement seem to say: "Look at me. See what I do. Now, is not that about the thing?" He is ever saying or doing something to attract attention. He is usually nicknamed "Smarty."

The weapon to use against him is public sentiment. That is the most painful to him. You show that such conduct is despicable in the eyes of the school, and when he sees that his deeds are condemned by the school, he will soon cease to practice them. If there is a sentiment against the teacher among a large number in the school, this pupil becomes the teacher's greatest annoyance. He will go just as far as he can, even if he is punished for it, because then he receives the greater applause from his fellow-scholars, and this causes him to bear the punishment gladly. The teacher should keep the great majority with him always. If he loses their support his power is gone. Public sentiment in school, as everywhere else, is a great force.

Let a teacher punish the worst boy in school, every one will say he richly deserves it. But if the teacher in his passion punishes too severely, the sentiment of the school will go against him. Their sympathies are then extended to the culprit, whom before they all disliked. He is made a hero, and glories in his victory. The teacher's influence is gone and it is doubtful if it can ever be regained. Always do the right and keep the public sentiment of the school with you.

If you have pupils who are vain, show them that true worth and the right are the only reputable things; that fine clothes or rich friends are no marks of superiority; that honesty, kindness, good sense, and real work deserve praise.

Especially should the teacher avoid showing vanity. Never do anything for the sake of showing what you can do. Never display your learning for the sake of having it seen. Go about your work modestly. Nothing will so soon bring the contempt of the school upon you as cringing and begging for notice and compliments.—U. J. HOFFMAN, "*Science of the Mind in Teaching*."

NOTES IN SCIENCE AND AGRICULTURE.

Women in Horticulture.—We have no patience, says an exchange, with the superficial observers who twaddle about the degrading effect of outdoor work upon women. They must be peculiar women who can be more "degraded" by working in God's pure air, amid the beautiful sights and sounds of nature, among the wonderful plants of garden and field, than by being cooped up in a hot kitchen, handling pots and kettles, doing chamber work and mending old clothes. No honest work is degrading to any man or woman, unless it injures the moral nature or weakens the body. We owe to our husbands and wives and children and our Maker the duty of performing the work before us to the best of our ability. We also owe to them the duty of doing the work we are best fitted for, and to take good care of our bodies in order that we *may* do our work well.

No industrial pursuit is better fitted for women, and they to it, than horticulture, the

culture of fruits, flowers, and vegetables, for pleasure or profit. Already millions of women cultivate and love as pets the few flowering plants and vines in their windows; thousands know the pleasure of flower-beds; and hundreds are practicing the art of gardening on a larger scale as a profession. May their efforts succeed, and may thousands more join their number! Thus will horticulture be honored, their own lives be made more beautiful and useful, and mankind be blessed by the better health and higher aims of the mothers of Christendom.

Water Gas.—Inquiry is made with regard to this substance, and it may be defined to be the gaseous product resulting from the interaction of steam and carbon at a high temperature. Generally speaking, the mode of its manufacture is to pass superheated steam through a thick layer of white-hot coal. The result of the procedure will be readily understood by reference to the following explanation: The glowing coal (carbon) seizes upon the oxygen of the steam, uniting with it to form carbonic acid. (In chemical language the reaction would be expressed by the formula $C+2(H_2O)=CO_2+4H$.) The carbonic acid thus formed is, however, forced to pass through a considerable layer of glowing coal before it may escape, and, in its passage through it, this white-hot carbon deprives the carbonic acid of one-half of its oxygen, reducing it to the state of the lower oxide of carbon, known as carbonic oxide. (This chemical reaction would be expressed as follows: $CO_2+C=2CO$.) The product which results from these several reactions is, therefore, composed of four equivalents of hydrogen and two equivalents of carbonic oxide (*e. g.*, $4H+2CO$). This product is what is known as water gas.

Great Salt Lake as a Geological Index.—The Great Salt Lake of Utah is an example of a modern saline sheet of very different origin, since it is in fact not a branch of the sea at all, but a mere shrunken remnant of a very large fresh-water-lake system, like that of the still-existing St. Lawrence chain. Once upon a time, American geologists say, a huge sheet of water, for which they have even invented a definite name, Lake Bonneville, occupied a far larger valley among the outliers of the Rocky Mountains, measuring three hundred miles in one direction by one hundred and eighty miles in the other. Beside this primitive Superior lay a second great sheet (Lake Lahontan, the geologists call it) almost as big, and equally of fresh water. By and by—the precise dates are necessarily indefinite—some change in the rain-fall made the waters of these big lakes shrink and evaporate. Lake Lahontan shrank away like Alice in Wonderland, till there was absolutely nothing left of it; Lake Bonneville shrank until it attained the diminished size of the existing Great Salt Lake. Terrace after terrace, running in long parallel lines on the sides of the Wahsatch Mountains around, mark the various levels at which it rested for a while on its gradual downward course. It is still falling, indeed, and the plain around is being gradually uncovered, forming the white salt-encrusted shore with which all visitors to the Mormon city are so familiar. But why should the water have become briny? Why should the evaporation of an old Superior produce at last a Great Salt Lake? Well, there is a small quantity of salt in solution even in the freshest of lakes and ponds, brought down to them by the streams or rivers; and as the water of the hypothetical Lake Bonneville slowly evaporated, the salt and other mineral constituents remained behind. Thus the solution grew constantly more and more concentrated, till at the present day it is extremely saline.

Domestic Habits in Alaska.—From a letter by Mrs. Willard, published in connection with Lieut. Schwatka's paper on the Yukon River in the *Century*, we take the following:

"The Chilcat people long ago gained for themselves the reputation of being the most fierce and warlike tribe in the Archipelago. Certain it is that, between themselves and southern Hy-dah, there is not another which can compare with them in strength, either as to numbers, intelligence, physical perfection, or wealth.

"A diseased person among the Chilcats is rather the exception, and prostitution as defined by them is punishable with death. At first thought their marriage laws seem very elastic, but such is not the case. Though they do not bind tightly they bind strongly, and the limits which are fixed are fixed indeed. The children always belong to their mother and are of her totem. This totemic relation is considered closer than that of blood. If the father's and mother's tribes be at war the children must take the maternal side, even if against their father. It is this law which makes illegal any marriage between members of the same tribe; though the contracting persons may be entire strangers, and unable to trace any blood relation. At the same time a man may marry his half-sister (one having a different mother) or a woman and her daughter—either at the same time or consecutively; for plural marriages are not uncommon, though they are by no means general. In very rare cases a woman has two husbands, oftener we find a man with two wives, even three; but more frequently met than either is the consecutive wife."

Swedish Deliberation.—One of the great peculiarities of travelling in Sweden is the extreme quiet and lack of flurry. The Swedish are a taciturn and noiseless people. They do much by signs, and never shout; a Swedish crowd makes singularly little sound. Swedes, even of the lowest class, never push or jostle. It is the custom to do so much bowing and hat-lifting that one is obliged to move quite slowly to give time for this cour-

tesy. When a train leaves a platform, or a steamboat a pier, all the lookers-on lift their hats to the departing passengers and bow to them, a compliment returned by the travellers. If you address the poorest person in the street, you must lift your hat. A gentleman passing a lady on the stairs of a hotel must do the same. To enter a shop or a bank with one's hat on is a terrible breach of good manners. If you enter or leave a coffee-room, you must bow to all occupants. Passengers on board the little steamers which ply about Stockholm invariably raise their hats to the occupants of any other boat which passes near them. The men in charge of the locks on the canal bow politely to the sailors as the boats go through.

The Progress in a Century.—From 1784 to 1884 is only a century, but it embraces almost all the inventions which we find so useful in daily life. Even many inventions once deemed indispensable, but now being rapidly superseded by others, were born within this century. It was only in 1784 the first mail coach was seen, and yet "the Wild Irishman" and "the Flying Dutchman" express trains, travelling a mile a minute, have become household words the world over. The first fire balloon was sent up in 1784, and to-day monstrous developments of the ideas are being used in warfare. A century ago the oil lamps, so familiar, were unknown; candles would not burn without snuffing; the wax candle, even, was unknown, and gas for illumination was uninvented. Since then gas is being abandoned for illumination, but applied for heat and cooking purposes as fuel-saving inventions. The flint and tinder were the means of obtaining a light until as late as 1827, when the matches we value so lightly were invented. Really good locks and the manifold adoptions of the spring, were all discovered during this century, the locks of the past being clumsy and easily disarranged contrivances. Labor-saving machinery in almost every branch belongs to this century; and in agricultural machinery the inventions have received their great incentive through the abundance of land and scarcity of labor upon this continent. Photography, too, has placed within the means of the masses a priceless boon—the facility of preserving correct impressions of their relative features—and strengthened the hands of justice in tracing criminals. This wondrous invention belongs to this century also. So on we might proceed with an astonishing list embracing every branch of science, and affecting every walk of life.

A New Kind of Lumber.—We now hear of the manufacture of lumber from the pulp of wheat and rye, straw, and other vegetable fibres, combined with some sort of a chemical cement. The mixture is formed in layers, perhaps a quarter of an inch in thickness, and then pressed together by powerful machinery, making it as hard as the hardest wood, and much more dense. It takes a high polish, is water-proof, does not warp, can be sawed, split, or planed, and boards made of it are free from knots. Moreover, it takes natural lumber years to grow, but this artificial kind can be produced in a single season.

Balata.—A New Rubber-Tree.—The dried milk of the bullet-tree, or *Minusops globosa*, from Guiana, is likely to come into greater use as a substitute for india-rubber and gutta-percha. According to Sir William Holmes, it possesses much of the elasticity of india-rubber without intractability, and much of the ductility of gutta-percha without its friability, while an American firm of manufacturers recently pronounced it "the best gum in the world." According to a recent report of Mr. Denman, Government Botanist of British Guiana, its strength is very great, and it is specially applicable to belting for machinery. Balata withstands exposure to light and air, whereas gutta-percha is apt to deteriorate under exposure. The electrical properties of the gum are also said to be equal to those of gutta-percha. Balata is now regularly collected in British Guiana, but it is usually worked up at home as a superior kind of gutta-percha; whereas it is a different gum, being softer at ordinary temperatures and less rigid in cold ones. It appears, in fact, to occupy an intermediate place between india-rubber and gutta-percha, and is growing in use as it becomes better known.

Flood Rock, which has stood for centuries in the way at Hell Gate, dividing the channels of the East River, was blown up on October 10th by charges of dynamite and rack-a-rock, amounting to 325,000 pounds. The sight was witnessed by thousands upon thousands. The rock that has narrowed the main channel to a mere trough, and reared its head above all tides, was torn to pieces, and its removal will be begun soon. As the area of the rock covered upward of eight acres, some time will be occupied before the channel will be fully cleared, and then the improvement to East River navigation will be incalculable.

Swiss Watches.—About 40,000 individuals are employed in Switzerland in the watch and clock trade, the canton of Neufchatel having 13,700 who turn out annually 1,000,000 watches, of the value of 50,000,000 francs. In the Vaudois there are 7,700, some of whom make musical boxes; in Berne there are 1,300, producing to the amount of 30,000,000 francs. The total annual production of watches in Switzerland averages 1,600,000, of the value of 88,000,000 francs. The export of 1882 was to the amount of 184,900 kilogrammes of watches, 25,300 in excess of the previous year. The import was 65,400 kilogrammes, consisting of watches in the rough brought into the country to be finished.

FOWLER & WELLS CO., *Publishers.*
H. S. DRAYTON, A.M., M.D., *Editor.*

NEW YORK,
DECEMBER, 1885.

SCIENTIFIC PHILANTHROPY.

IN the city of New York a movement is on foot with the purpose of prosecuting charitable work in a manner that shall be not only systematic and economical,—for that is an avowed characteristic of all established charities,—but that shall be restorative of the beneficiary's ability to care for himself and become an independent and useful citizen. The prevalent idea regarding charity has been that of ministering to the necessities of people in the way of food, clothing, and shelter—it being assumed that such ministration will be a matter of a few days or weeks, the poor ones meanwhile getting into a better physical and mental state and becoming competent to take care of themselves. But in our great cities the result of observation shows an increase of applicants for help, in response, as it were, to the extension of the ordinary methods of benevolent work, so that it may be said that mendicity is increased rather than diminished by popular kindness. Our churches have their mission stations and societies for the help of the sick and poor, and annually dispense hundreds of thousands of dollars in the city of New York alone. Much good is done; hundreds of men and women are saved from starvation and redeemed from lives of vice and degradation; but the amount of good accomplished is really insignificant when one considers the very large sums of money it has cost and the number of persons who have devoted time and labor to it.

The results of benevolence should have a degree of permanence, otherwise society is not benefited. If frequent repetitions of a kindness do not bring about an improvement in the person for whom the kindness is given, discouragement and distrust are awakened; the benefactor feels that he is wasting his substance, and the warm sentiment that made him a "cheerful giver" changes to indignant protest, or cools down into careless indifference. Most frequently the latter.

Scientific philanthropy is a deliberate, cautious method of dealing with the poor and wretched. It is cool, discriminating, and practical, setting the worthy and unworthy in classes, measuring individual capacities, and discovering the causes of weakness and failure in its beneficiaries. Its fundamental motive is to help men to help themselves—in other words, to render them better able to use their faculties in the affairs of every-day life, and to meet and master the obstacles that are the common lot of men who must rely upon their own heads and hands for support.

It is the part of the scientific benefactor to show how vice and crime entail an unfortunate organization; how habits tolerated by society conduce to intellectual and moral weaknesses, and, in the end, to the suffering and degradation that charity would relieve. Scientific philanthropy would show further that much of what

society terms recreation, and even encourages as healthful stimulation, is depressing and injurious to both the moral and physical tone. It charges society with high responsibilities, and points out how prevalent evils are due to a disregard of individual right, of protection against common abuses and temptations. In the family, in the church, in the shop, school, factory, and warehouse, scientific benevolence has its field of reform—to instruct with regard to personal constitution, need, and duty.

THE ARGUMENT FROM EXPERIENCE.

"WISDOM is the guide of life." This apothegm we learned in our school-days. It had a pleasant sound; it appeared to involve profound truths, both metaphysical and practical, and we surveyed it from different points of view to apprehend, if possible, its essential meaning; but our youthful mind seemed incompetent to grasp it. We perceived that knowledge bore a close relation to wisdom, and we had a deep respect for knowledge, but we saw clearly enough that encyclopædic learning did not necessarily involve wisdom, and that the man of data, the scientist, the historian, the linguist, might be crammed with details and technicalities and yet be far from wise. As we grew older and learned more of the world's methods and of human nature, we began to see that wisdom consisted largely in that application of knowledge which should conduce to the attainment of the end in view; therefore it was a skilful, well-adjusted mode of exercising the mental faculties rather than the possession of extensive knowledge, or even the possession of special gifts of faculty. We saw how men said to have genius failed, often miserably, in the career of life. We saw how shining capabilities in certain directions were not certainly conducive to business success or social happiness. And we also saw that commonplace faculties guided by a sober, discreet judgment, and exercised patiently and perseveringly, usually won place, esteem, and wealth. Here we discerned wisdom, and were led to believe that the Creator of man had designed it for no particular class of persons, but that it was for the most part the outcome or reward of self-training and development. It was not to be purchased by gold, but to be the reward of patient culture of the faculties, and an eager appropriation of the best fruits of experience.

But how was one to secure that mental development, that orderly education of the faculties that was conducive to the wise use of one's time and strength? We scrutinized history and philosophy in vain to find a definite formula that, like the chemist in his analysis, we could follow with confidence. We had studied the treatises of the schools on logic and metaphysics in vain; they afforded us only dry propositions, conjectures, lifeless syllogisms, intricate terminologies, elaborate analyses, and controversies. The rules that one man had set up for his guidance were shown to be inadequate and impracticable for the following of another, and here and there the intimation was vouchsafed by "authority" that the elaborate composition of mind and its subtle essence rendered technical formularies impossible. But later on we stumbled on a simple, unpretentious category of propositions entitled Phrenology, and lo, we found many of our doubts cleared away, and assurance given that it was possible to study the human mind analytically, and that there were certain principles that had a general application to every man. Further investigation proved to our satisfaction that here were no impracticable formulæ, and the testimony of hundreds of scholars added strength to our convictions that Gall and Spurzheim had found a precious key that unlocked the mysteries of mental action and disclosed the fundamental principia of a rational method of individual development and culture. Here was a lamp that lighted the way to the attain-

ment of that goal of a true ambition, the wise use of faculty. Phrenological science by disclosing the organization of mind, by defining the nature of special faculties, and explaining the laws of their operation and inter-relation, had resolved the secret that the philosophies of ages had vainly endeavored to unravel.

Our Mentorial Bureau.

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

TO OUR CONTRIBUTORS.—It will greatly *aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:*

1. *Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.*

2. *Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.*

3. *Don't write in a small hand, or in pencil, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.*

4. *Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.*

5. *Be brief. People don't like to read long stories. A two-column article is read by four times as many people as one of double that length.*

6. *Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.*

WE CAN NOT UNDERTAKE TO RETURN UN*available contributions unless the necessary postage is provided by the writers.* IN ALL CASES, *persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal and private matters will be considered by the Editor if this is done.*

FOOD FOR BONE.—C. F. S.—The farinacea, especially wheat, oats, barley, and corn, supply abundant material for the bones. There is also considerable bone-material in milk, eggs, and the lean of beef and mutton.

"Nervousness" has a great many phases, and its treatment must, of course, vary in accordance with the phase. Fundamentally, it arises from defective nutrition, therefore the treatment should specially consider the nutritive needs of the patient. To be sure, some "nervous" people appear to enjoy high health; they may be plump and ruddy; such need a change of pursuit, place, association. We know a prominent Methodist divine who became so neurasthenic, or "nervous," that life was simply intolerable; he went away, and spent several months in constant travel, chiefly tramping over the hills, and finally brought about a balance of organization that restored the grateful in life.

This department is usually so crowded with inquiries, that months sometimes elapse before we can reach a correspondent in his proper order; this is the reason your question has not been considered sooner.

STUDENT IN PHRENOLOGY.—F. B. W.—The books named in the "Student's Set" are among the best for the beginner in Phrenology. If you have read Combe and Fowler's lectures partly, you have made a good beginning. You should read a treatise on the Temperaments, and next a work like "Brain and Mind," which deals with phrenological questions, and then go on farther. It would be well for you to study also a good treatise on Anatomy and Physiology. To be sure, a little knowledge of phrenological principles helps one to understand character and open up views of people with whom he comes in contact, but a rudimentary knowledge of our subject is always found to be unsatisfactory to an educated man.

TO CLEAN BONES.—M. D.—The common practice is to boil the subject; this, kept up long enough, will clean the bones well. Another way, if you live in the country, would be to place the body, if it be that of a small animal, near an ant-hill; for in a comparatively short time these little industrious scavengers would denude a small skeleton of every particle of soft matter.

CHANGES IN AMERICAN VEGETATION.—L. D. J.—The references to Swedenborg in the clipping sent us, have a bearing, certainly, upon the subject of modifications in plant-life; but the meaning of the seer is, of course, spiritual rather than physical. "To show that the character of plants and animals depends upon those who have been transplanted into the spiritual world, rather than upon those still living in this world," is to announce a proposition which most scientific men would regard with smiling scepticism. Swedenborg appears to have been a man of remarkably broad views; that is, his doctrines had some application to everything relating to life; but the spiritual or transcendental meaning which he impressed upon his subjects would not receive very earnest consideration from the modern scientist.

HEALTH JOURNALS.—E. L.—Some of our better known magazines relating to health are published in connection with private institutions, and may be said, therefore, to reflect special or pri-

vate opinion more than independent thought. Attempts from time to time have been made to establish a popular health magazine of a general or independent character, but after an existence, even of years, it has failed for want of support. The *Sanitarian* of New York is vigorously edited, and is of an advanced character, intended rather for the use of medical and scientific men than for popular use. Questions of drainage and town hygiene are its chief topics. Among the monthlies issued in the interest of institutions or of private physicians, and which nevertheless have features that are not undeserving of encouragement because of their hygienic value, are *Good Health*, of the Battle Creek Sanatarium; *Laws of Life*, of the Dansville Sanatorium; *Herald of Health*, Dr. Holbrook's; *Health*, of Walter's Mountain Park Cure; *People's Journal of Health*, Chicago; *The Southern Journal of Health*, Asheville, N. C.

What They Say.

Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

A LATER CRITIC (in the "Encyclopædia Britannica").—I have given a great deal of study and observation to Phrenology, and my belief in the importance of its principles grows stronger as I continue my investigations. D.D.'s, medical men, and others with whom I take occasion to converse upon the subject, and who reject Phrenology, have thus far failed to impress me with any reason or to produce a single fact in support of their pretended disbelief. Last spring I made it the subject of an essay. My professor looked over it with me, and after opposing his attacks as best I could and carefully weighing his arguments, I left him with a firmer conviction than ever that Phrenology *will stand*. One of the best weapons of defence that I have gotten hold of is an article by a Prof. A. Macalistar, in Vol. XVIII. of the "Encyclopædia Britannica." Its author, whose downright dishonesty would seem to be the only excuse for his ignorance, says, in speaking of the organs: "The size of each of these regions is the measure of power manifesting the faculty associated with it." A statement original with himself and not to be found in the doctrines of Phrenology. He is very fond of omitting the clause, "other things being equal." Further on, he merely mentions temperament, referring to it as if it were a back-door, whose existence phrenologists were careful to conceal, until a failure for "coincidences" makes an escape in that direction necessary. Yet his article is, we suppose, recognized by the readers of the "Encyclopædia" generally, as a reliable scientific treatise on the subject of Phrenology, notwithstanding the fact that he ignores one of its fundamental principles, and reaches conclusions by false statements that could not be reached by adherence to the truth. As a specimen of ignorance and misrepresentation "boiled down," this article is the latest and best, and in some degree is typical of the occasional attempts made to disprove Phrenology. Some men of prominence, in the course of lectures relating to mental subjects, take occasion to speak disparagingly of Phrenology; they utter personal opinions for the most part, yet it must be regretted that such opinions go a great way with their audiences. I have often wondered why the majority of such men can not be brought to see the importance of phrenological science, and thus contribute to its usefulness among the people.

E. E. DAVIS.

PERSONAL.

DR. CHARLES PHILLIPPE ROBIN, the famous French physician and scientist, died at Paris Nov. 6th, at the age of sixty-four.

DAN RICE, the old circus clown, has set up a claim to the whole island on which stands the city of Galveston, Texas. Mr. Rice has in his possession an old Mexican land grant, obtained from Daniel McLaren, an original Spanish settler, which covers the claim. The gobbler!

LADY DUFFERIN, wife of the "coming man" in British affairs, has formed in India a National Association for supplying "female medical aid"—*i. e.*, women doctors—to attend the wives of natives in sickness. Hitherto these women have been deprived of skilled medical attendance, no European man being allowed to approach them.

JENS JACOB ASMUSSEN WORSAAE, whose death occurred in Denmark on August 15th, was not only one of the most famous Danes, but also one of the greatest archæologists of our day. He was born in Veile, in 1821, and was at the time of his death Director of the several royal museums and of the archæological monuments of Denmark. The Museum of Northern Antiquities in Copenhagen was established by the very clever archæologist, C. J. Thomsen, who may almost be called the founder of northern archæology, and, when he died in 1865, Worsaae became his successor in office as Director, and also his undisputed heir as authority in this field of research.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

A HEART unspotted is not easily daunted.—*Shakespeare.*

IN things of the mind we look for no compulsion but that of light and reason.—*Oliver Cromwell.*

ALL nations have agreed on the necessity of a strict education, which consisted in the observance of moral duties.—*Swift.*

If you go about telling people you have an inheritance worth a million worlds, and yet get out of temper about the loss of a nickel, they will not believe you.

Our education can never be perfect unless, like an ancient temple, it is lighted from the top. Only an education of religion can give us happiness and permanent success.

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

"What is your name, little girl?" "Minnie." "Minnie what?" "Minnie Don't, mamma calls me."

"What is a house without a baby?" asked a lady, and an old bachelor replied, "It is comparatively quiet."

"I am astonished, my dear young lady, at your sentiments; you make me start." "Good! I have been wanting you to start for the last hour."

A man writes to an editor for $4, "because he is so infernally short," and gets in reply the heartless response: "Do as I do—stand up on a chair."

A Uniontown, N. J., woman, by the free use of carbolic acid, removed all the freckles from her face. The doctor thinks a new skin will set in in about nine weeks.

Library.

In this department we give short reviews of such New Books *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.*

A Mission Flower. By G. H. Picard. 12mo, pp. 342. White, Stokes & Allen, New York.

Mr. Picard is entitled, without question, to the name of author. His book is in some respects a remarkable production. From first to last, there is not a tiresome or an overdrawn paragraph. Smoothly, and without "lugging in" all the adjectives available, the story moves along, giving unmistakable evidence of the author's careful study of those phases of human nature so graphically depicted. There are several very strong pictures "drawn to the life." The story is, however, a sad one, leaving at its close a pain in the heart of the reader. We all know that in real life there are just such tangles, just such incompleteness as is told so graphically in this volume. The author has had the courage to go out of the beaten track and write of life as it really is. The scenes are Western American. The principal characters are an aged priest, a convent superior, Dona Solace—the mission flower—Roger and Milly Paradise, and Manuel Silva. The father of Dona Solace, a reckless schemer, is found dead, and the verdict is "suicide." He has been the agent of John Paradise, a rich English brewer. After his death the elder children, Roger and Milly, come to America and occupy the home. Roger falls in love with Dona, but is rejected because she finds that she loves Silva. Confessing the truth to Father Caron, he tells her that Silva murdered her father. With a genuine insight into woman's nature, the author depicts Dona's interview with Silva, in which he confirms Father Caron's statement. True, the act was defensive, but in that hour Dona is metamorphosed, as many another woman has been; she says, "I am a ghost sitting at my own funeral feast; when I came to you I was a young girl fleeing across the fields with a singing in my heart."

Roger and Milly go home to England, leaving Silva in their home, where he shortly after dies of hemorrhage; from the window where death finds him he can see Dona in her nun's cap going to vespers.

Driven Back to Eden. By E. P. Roe. 12mo, cloth. Price, $1.50. Dodd, Mead & Co., New York.

This is "a story with a purpose." Robert Dunham, one of the vast army of workers in New York, wakes up (as hundreds of others have done) to the fact that existence in tenement-houses and "flats" is not the sort of home-life designed by the All-wise Creator for man. The little Dunhams are beginning to learn of the unwholesome side of life; Mrs. Dunham is fading and growing fretful. They have managed by close economy to save a small sum, which they invest in a small fruit farm up the Hudson. Their first year's experiences, profits, and losses are very pleasantly told, and many good ideas on family government and unity of purpose are here and there thrown out. Such incidents as the redemption of the vagabond Bagleys occur frequently in books—and may possibly occur on very rare occasions in real life.

Many of the "white slaves" of New York of like refinement with Robert Dunham, would gladly seek an "Eden" such as his country home proved to be, but to let go of the "plough-handle" they now hold would mean starvation, as they lack the capital to back up the venture. There is but little opportunity in the circumscribed existence of a "flat" to teach children to be helpful. The tired, nervous mothers, and irritable, over-worked fathers, are in most cases so glad to get the children out of the way for a brief time, that they do not stop to con-

THE CLEVELAND PUBLIC LIBRARY

sider the harmful influence of their chance associates. Mr. Roe in this book is for the most part at home; he writes from personal experience, and his work has a practical value.

AN ORIGINAL BELLE. By E. P. Roe. 12mo, cloth. Price, $1.50. Dodd, Mead & Co., New York.

One of the most important points to be considered in the making of a book is the need of it; we are at a loss in attempting to discover the need of "An Original Belle." To us the book seems quite too tedious for amusement and not strong enough to instigate reformation in the class of women to which Marian Vosburgh belonged, when she was waked up by learning that her maid copied flirtation's heartlessness from the gay young mistress of the mansion. The war is long past; we would fain forget its bitterness; there are as yet too many hearts all unhealed, that will bleed anew through grieving memories stirred unnecessarily by authors.

The description of the "draft riot" is certainly a well-executed piece of writing, and more accurate than most of the accounts of those terrible days that appear in the popular histories. The presence of several familiar names does not hide the fact that "An Original Belle" is fiction. It is pure and clean, of course, the author's name is a guaranty of that fact, but the action is overdrawn.

PUBLICATIONS RECEIVED.

THE OLD TESTAMENT STUDENT is the new title of a monthly lately introduced to the public. As its name implies, it is designed to assist students of the Bible, both philologically and exegetically, and while possessing technical features, it is also adapted to popular uses. Price $1.50 a year. American Publication Society of Hebrew, Chicago.

NORTH AMERICAN REVIEW for November contains: Progress of Democracy in Europe, by Señor Castelar; Recollections and Letters of Grant; Statecraft and Priestcraft; Style and the Monument; Abraham Lincoln in Illinois; United Bulgaria; etc.

GERMAN SIMPLIFIED: Being a concise and lucid explanation of the Principles of the German Language, accompanied by numerous examples and exercises, and having a complete course of instruction for the purposes of reading, business, and travel, especially intended for self-instruction, etc. By A. Knoflach, author of "A Manual of the German Language," etc. Published by the Author.

This series of Pamphlet Numbers impresses us very favorably. The author takes pains to lead the student on gradually from the first rudiments in German to elaborate and more complex forms. Exercises are given in the alphabetical relations of the language both in the written and printed forms: and as the treatise advances from Number to Number, the author appears to keep constantly in view the practical needs of the student. Twelve Numbers constitute the series. The work appears to be well adapted for class-room use, as well as for private study.

MESSRS. HOUGHTON, MIFFLIN & CO., of Boston, have published two new calendars for 1886, named respectively the Whitney and Lowell Calendars, selections from the writings of James Russell Lowell and Mrs. A. D. T. Whitney being used in them. The Lowell Calendar has an excellent portrait of the poet and a view of Elmwood, his house in Cambridge. The Whitney Calendar is printed in gold and light tints, with a design emblematical of the four seasons. The color-printing is excellent.

DIANA: A Psycho-Fyziological essay on the Sexual Relations of Married Men and Women. Third edition, revised and enlarged. Price twenty-five cents. A brief essay, published by Burnz & Co., of New York, which has its merits. Careful consideration of the reasoning of this book would tend to purify the atmosphere of many a so-called Christian home.

THE SCIENTIFIC AMERICAN HANDBOOK. A treatise relating to patents, caveats, designs, trade-marks, copyrights, labels, etc. Published by Munn & Co., New York. A convenient little pamphlet for the reference of those who are interested in mechanical problems.

THE GOOD THINGS OF LIFE. Second Series. Small quarto, fancy cloth. Price $2.00. Published by White, Stokes & Allen, New York. By "Life," is meant the weekly illustrated paper published in New York City. It contains sketches and cartoons, hitting off in a humorous vein, often more or less pervaded with sarcasm, different phases of life in all classes of society. The handsomely printed volume under notice contains selections from this paper; of course, they are the better designs and fancies that have appeared, and make up a collection that will amuse one not altogether without furnishing a good and useful hint for an hour or so.

CATECHISM ON BEER. By Julia Colman. The National Temperance Society have just issued this pamphlet in the same style as "Catechism on Alcohol and Tobacco" and "Primary Temperance Catechism." It should be in the hands of children generally, that they may grow up informed about the facts regarding the composition of beer and its action upon the human system. Price five cents.

CURRENT EXCHANGES.—Lippincott's Magazine for November is distinguished for its high literary merit; Young Folks' Musical Monthly, Strongsville, O.; Publishers' Weekly—Fall Announcement Number; The Literary World, Boston; The Western Rural, Chicago; The Sanitary News, Chicago; Harper's Weekly; American Journal of Insanity, State Lunatic Asylum, Utica, N. Y.; Appleton's Literary Bulletin, New York; Leisure Hours, Rahway, N. J.; The Graphic, Cincinnati; Mind in Nature; The Household.